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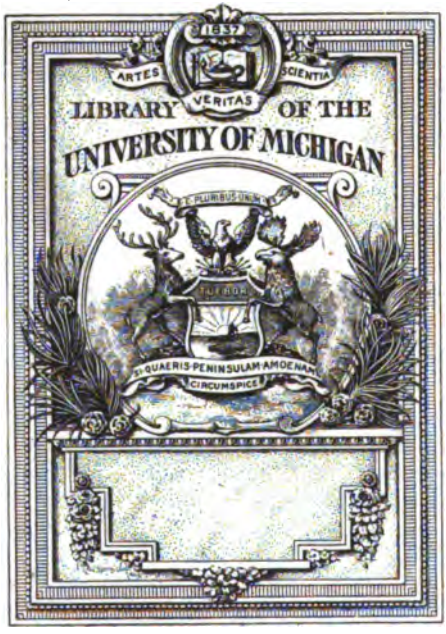
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CONTENTS.

		Page.
I.—Cotton Baling in Foreign Countries		1
(Austria-Hungary, 2—France, 7—Germany, 1.—Great Britain, 19—Italy, 24—Spain, 26—Egypt, 28—India, 29—Brazil, 45—Colombia, 47—New Covering for American Cotton, 52—New Baling Systems, 53—Extracts from Previous Reports, 54—Fires in American Cotton, 56—Movement for Improved Bagging, 56.)		
II.—Manufacture of Tin Plate Abroad		59
(Austria, 59—Belgium, 65—France, 69—Germany, 78—Great Britain, 89—Russia, 102.)		
III.—Provincial Debts of the Argentine Republic	*Buchanan*	103
IV.—Federation of the Australian Colonies	*Maratta*	104
V.—Sewing Machines in Denmark	*Kirk*	113
VI.—The Gas-Motor Car in Dresden	*Carroll*	115
VII.—Horse Meat for Germany	*Tingle*	121
VIII.—Income Tax of Prussia	*Morris*	122
IX.—American Art Products in Germany	*Sern*	123
X.—Burial of the Dead in Switzerland	*Richman*	125
XI.—Exports Declared for the United States		129
(British India, 129—Germany, 129.)		
XII.—Mexico—Message of President Diaz	*Butler*	133
XIII.—Santo Domingo—Message of President Heureaux	*Grimke*	138
XIV.—Chicory as a Beverage	*Morris*	139
XV.—American Interests in Rouen	*Williams*	144
XVI.—American Boots and Shoes in England	*Bayard*	146
XVII.—Proposed Tariff Law for Belgium	*Ewing*	147
XVIII.—Changes in the Swedish Tariff	*Boyesen*	148
XIX.—Agriculture in Scotland	*Reid*	149
XX.—Jamaica—Industrial Condition and Tariff	*Eckford*	151, 155
XXI.—Railroad Development in Venezuela	*Plumacher*	155, 157, 160
XXII.—Electric Lighting in Montevideo	*Schramm*	162
XXIII.—Russian Tea Production and Grain Exports	*Karel*	163
XXIV.—Gold, Platinum, and Silver in Russia	*Karel*	164
XXV.—Tariff and Other Taxes in Madagascar	*Wetter*	165
XXVI.—Hawaiian Imports of Liquors	*Mills*	168
XXVII.—Diversion of Hawaii's Sugar Trade	*Mills*	169
XXVIII.—Uses of Monazite in Europe	*Mason*	170
XXIX.—Art Exposition at Venice	*Johnson*	172

Page.

XXX.—Exports of Oranges from Messina.....*Caughy* 173

XXXI.—Ivory Trade of Antwerp.....*Morris* 174

XXXII.—German Opposition to Argentine Imports.....*de Kay* 175

XXXIII.—French Receipts and Expenditures.....*Wiley* 176

XXXIV.—Edible Snails.....*Kemmler* 178

XXXV.—Notes (Government Control of Antidiphtheritic Serum—Transandine Railway Guaranty—Imports of Wheat into Germany—Physicians Along the Canadian Border—Spanish Duty on Wheat, Flour, and Bran—Faster Mails from Great Britain—The Food of a Parisian—Negro Colony in Mexico—The Silver Question in Wurtemberg—Production of Gold and Silver in Australasia—American Clocks for Singapore—Federal Monopoly of Matches in Switzerland—Cattle Plague in Russia—Cracked Oats in Germany—Cuban Sugar Statistics—Slate Beds for Billiard Tables in Venezuela—Teaching of Turkish in Turkish Schools—Architectural Competition in Cairo—Additional Tariff Taxes in Colombia—Errata—Consular Reports Transmitted to Other Departments)..... 181

XXXVI.—Foreign Reports and Publications (International Expositions—Commercial League of Great Britain and Her Colonies—Foreign Trade of the United Kingdom—Petroleum Trade of the Far East)..... 189

REPORTS BY COUNTRIES.

	Page.
ARGENTINE REPUBLIC:	
Provincial debts of	103
AUSTRALASIA:	
Federation of the colonies of	104
Production of gold and silver in	185
AUSTRIA-HUNGARY:	
Cotton baling in	2
Manufacture of tin plate in	59
BELGIUM:	
Cotton baling in	55
Ivory trade of Antwerp	174
Manufacture of tin plate in	65
Proposed tariff law for	147
BRAZIL:	
Cotton baling in	45
BRITISH INDIA:	
Cotton baling in	29
Exports declared for the United States from	129
CANADA:	
Physicians along the border of	182
CHILE:	
Transandine railway guaranty	181
COLOMBIA:	
Additional tariff taxes in	188
Cotton baling in	47
CUBA:	
Sugar statistics of	187
DENMARK:	
Sewing machines in	113
EGYPT:	
Architectural competition in Cairo	188
Cotton baling in	28
ENGLAND:	
American boots and shoes in	146
EUROPE:	
Chicory as a beverage	139
Edible snails in	178
Uses of monazite in	170

	Page.
FRANCE:	
American interests in Rouen	144
Cotton baling in	7
Food of a Parisian	184
Manufacture of tin plate in	69
Receipts and expenditures	176
GERMANY:	
American art products in	123
Cotton baling in	10, 55
Cracked oats in	187
Exports declared for the United States from	129
Government control of antidiphtheritic serum	181
Horse meat in	121
Imports of wheat into	182
Income tax of Prussia	122
Manufacture of tin plate in	78
Opposition to imports from Argentine Republic	175
The gas-motor car in Dresden	115
The silver question in Wurtemberg	185
GREAT BRITAIN:	
Cotton baling in	19
Faster mails from	183
Manufacture of tin plate in	89
HAWAII:	
Diversion of sugar trade of	169
Imports of liquors into	168
INDIA:	
Cotton baling in	29
ITALY:	
Art exposition at Venice	172
Cotton baling in	24
Exports of oranges from	173
JAMAICA:	
Industrial condition and tariff	151
JAPAN:	
Cotton baling in	55
MADAGASCAR:	
Tariff and other taxes in	165
MEXICO:	
Message of President Diaz	133
Negro colony in	184
PRUSSIA:	
Income tax of	122

	Page.
RUSSIA:	
Cattle plague in	186
Cotton baling in	55
Gold, platinum, and silver in	164
Manufacture of tin plate in	102
Tea production and grain exports	163
SANTO DOMINGO:	
Message of President Heureaux	138
SCOTLAND:	
Agriculture in	149
SINGAPORE:	
American clocks for	186
SPAIN:	
Cotton baling in	26
Duty on wheat, flour, and bran	183
SWEDEN:	
Changes in the tariff of	148
SWITZERLAND:	
Burial of the dead in	125
Federal monopoly of matches in	186
TURKEY:	
Teaching of Turkish in	188
URUGUAY:	
Electric lighting in	162
VENEZUELA:	
Railroad development in	155
Slate beds for billiard tables in	187

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*....	Gold and silver...	Peso.....	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.....	Gold.....	Crown.....	.20,3	Gold—20 crowns ($4.05,2)* and 10 crowns.
Belgium.....	Gold and silver...	Franc.....	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold.....	Milreis.....	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland)).	.... do.....	Dollar.....	1.00	
Chile‡.....	Gold and silver....	Peso.....	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba.....	.....do.....	.....do.....	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark.....	Gold.....	Crown.....	.26,8	Gold—10 and 20 crowns.
Egypt.....	.....do.....	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	.....do.....	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France.....	Gold and silver....	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany.....	Gold.....	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do.....	Pound sterling.....	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver....	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.....	.....do.....	Gourde.....	.96,5	Silver—gourde.
Italy.....	.....do.....	Lira.....	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.....	Gold.....	Dollar.....	1.00	
Netherlands‡.....	Gold and silver....	Florin.....	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland.....	Gold.....	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Portugal.....	Gold.....	Milreis.....	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.....	Gold and silver....	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold.....	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland.....	Gold and silver....	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.....	Gold.....	Piaster.....	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela.....	Gold and silver....	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

*In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

‡ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875	1878.	1880.	1883.	1884.
Austria-Hungary*	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.92,8	.92,8	.83,6	.....	.....
China	Silver	Haikwan tael	1.61	1.61	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.92,8	.92,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	.....	.....
	Silver		.....	.....	.....	.....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	.....	.....
Peru	Silver	Sol	.92,5	.92,8	.92,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	.....	.....	.....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	.....	.....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1892.				1893.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Austria-Hungary *	Gold crown	.....	.....	.....	$0.20,3	.....	.....	.....	.....
	Silver florin	$0.34,1	$0.32,8	$0.32	.....	.....	.....	.....	.....
Bolivia	Silver boliviano	.69,1	.66,5	.64,9	.61,6	$0.61,3	$0.61	$0.60,4	$0.53,1
Central America	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
China †	Shanghai tael	1.02,1	.98,2	.95,8	.91	.90,6	.90,1	.89,2	.78,4
	Haikwan tael	1.13,7	1.09,3	1.06,7	1.01,3	1.01	1.00,4	.99,4	.87,4
Colombia	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Ecuador	do	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
India	Silver rupee	.32,8	.31,6	.30,8	.29,3	.29,2	.29	.28,7	.25,2
Japan ‡	Silver yen	.74,5	.71,6	.69,9	.66,4	.66,1	.65,8	.65,1	.57,3
Mexico	Silver dollar	.75	.72,2	.70,4	.66,9	.66,6	.66,2	.65,6	.57,7
Peru	Silver sol	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Russia ‖	Silver ruble	.55,3	.53,1	.51,9	.49,2	.49,1	.48,8	.48,3	.42,5
Tripoli	Silver mahbub	.62,3	.60	.58,5	.55,5	.55,3	.55	.54,5	.47,9
Venezuela ¶	Silver bolivar	.13,8	.13,3	.13	.12,3	.....	.....	.....	.....

Countries.	Monetary unit.	1894.				1895.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1
Central America	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
China †	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67.3	.65,2
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6
	Tien-Tsin tael	.....	.....	.....	.72,7	.71,4	.69,2
	Chefoo tael	.....	.....	.....	.71,7	.70,4	.68,3
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21,0
Japan ‡	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
Russia ‖	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8

* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (Consular Reports No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‖ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

¶ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110 24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4 2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs. full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264 17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85 134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅘ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135 1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1 6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. XLVIII. MAY, 1895. No. 176.

COTTON BALING IN FOREIGN COUNTRIES.

CONSULAR REPORTS No. 160 (January, 1894) was devoted entirely to the publication of a series of reports by consular officers, made in compliance with instructions from the Department, upon the proper methods of packing American goods for export with reference to the special requirements of various countries and conditions of trade in particular localities. The series, entitled "Packing Goods for Export," was continued in CONSULAR REPORTS No. 164 (May, 1894), p. 65, and in No. 166 (July, 1894), p. 476. Considerable space in these reports was devoted to the subject of the baling of American cotton, the testimony, almost without exception, being that it was "particularly defective, suffering much by comparison with the baling of Indian and Egyptian cotton."* Consul Chancellor, of Havre, in a report, "Objectionable Cotton Baling," printed in CONSULAR REPORTS No. 161 (February, 1894), p. 386, transmitted a protest from import brokers and agents of Havre against an increase by American shippers of the packing of cotton bales by additions of canvas varying in weight from 3 to 8 pounds a bale. A previous report by Consul Chancellor on the superiority of Indian and Egyptian cotton baling was printed in CONSULAR REPORTS No. 158 (November, 1893), p. 338, and again in No. 160 (January, 1894), p. 127.

The information given in these reports excited strong interest in the cotton trade of the United States, and the Department was requested to obtain fuller and more specific data upon the subject. Accordingly, consular officers were instructed, by circular of May 24, 1894, to prepare reports giving dimensions and weights of American, Egyptian, Indian, and South American cotton bales received at their ports; describing the covering of bales, the character of material, both as to wrapping and bands, and the con-

*See CONSULAR REPORTS No. 160 (January, 1894), p. 2.

dition in which the cotton is usually received; stating whether American cotton suffers directly or indirectly by comparison with foreign cotton on account of either the style or manner of covering or the quality or extent of the compressing; describing compress machinery and covering for cotton bales used, cost of compressing, etc., at cotton-exporting points, etc. Following are the reports received by the Department in answer to this circular.

AUSTRIA-HUNGARY.

TRIESTE.

I have been enabled, through the courtesy of dealers in cotton at this port, to obtain definite information as to the dimensions and weights, the character of the covering of the bales, and the condition of the cotton on its arrival, and the effect upon American cotton of the manner of its baling as compared with cotton from other countries.

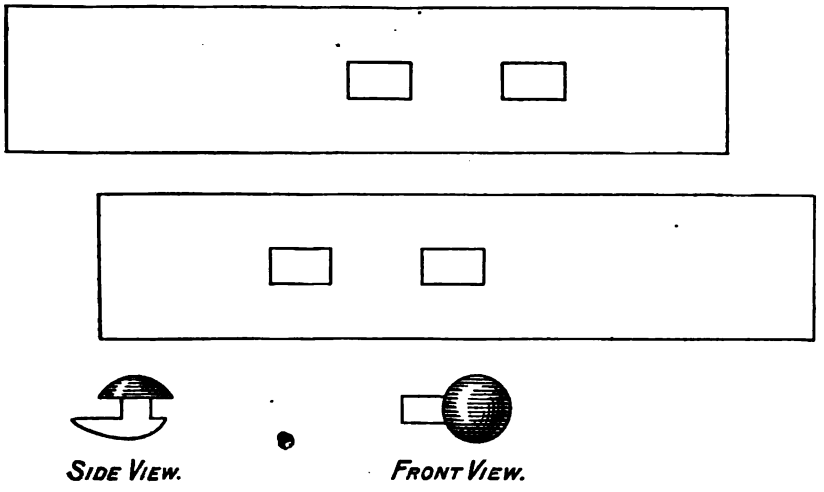
The comparative dimensions and weights of the bales of American, Indian, Egyptian, and Turkish cotton are shown by the following table. The American bale is not of uniform length or size.

Description.	Length.	Width.	Thickness.	Average weight.
	Inches.	*Inches.*	*Inches.*	*Pounds.*
American	60 to 71	32 to 35	19 to 22	500
Indian	48	22	17	410
Egyptian	50	30	20	740
Turkish	38	34	34	400

No South American cotton is received at this port, and the quantity from Turkey is so small as to be practically of no importance. All cotton from America, India, Egypt, and Turkey has a casing manufactured from jute, but the coverings of the bales differ materially as to texture and degree of protection afforded to the cotton. The American cotton bagging is made of large, coarse strands of jute, with interstices between the strands, which are considerably increased by the expansive power of the compressed cotton. The covering on the Indian, Egyptian, and Turkish bales is of bagging made of smaller strands of jute and more compactly woven, and, while it does not seem to be as strong as the American, it comes in better shape and more effectively protects the cotton.

The bands, or ties, on all of the bales are of iron, and those on the foreign cotton do not vary materially in width and thickness from those of American use. The bales from India and Egypt have more bands than the American, the Indian having from eleven to thirteen, being a band to every 4 or 4½ inches, and the Egyptian ten to eleven, making one band to every 4½ or 5 inches. The cotton bales from Turkey generally have four bands. The bands on the Egyptian bales have a different fastening from those on American bales, the American being what is known as the

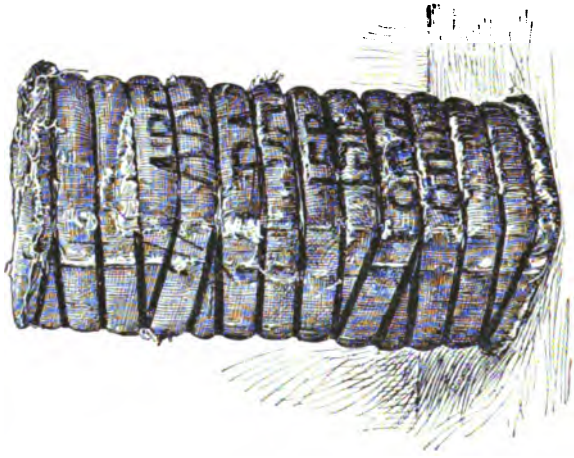
arrow-tie buckle. The Egyptian bands have two square-sided, oblong holes at each end, and an easily adjustable metal button, or buckle fastening, as is shown by the drawing. The band on the Indian cotton is wound around



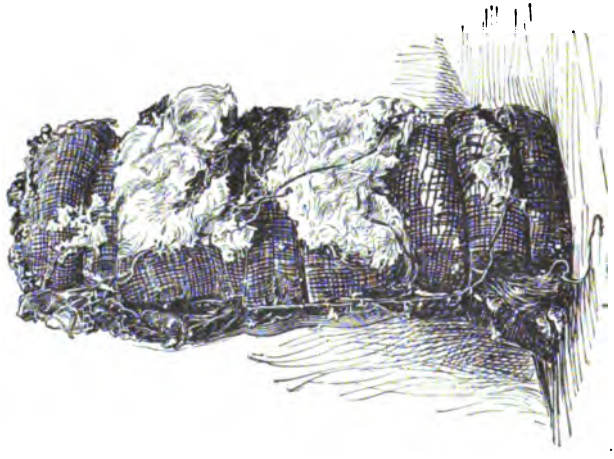
the bale, being, in some cases, only one continuous hoop; in other cases, the band is composed of two, or, perhaps, three parts. They have no fastenings, but are held in place by the ends being overlapped by the band.

The American cotton comes in worse condition than any of the various sorts received at this port, both as regards bands and covering material and exterior condition of the contents. The interior of the cotton is not injured, I am informed, its compressed condition resisting the penetration of rain and water, except in cases where many bands are off. The jute casing is torn, and the cotton exposed to mud, water, rain, theft, and fire. The bands easily come off—one, two, and sometimes more being frequently loose or broken—the cotton bulges out, and more easily absorbs water, takes up dirt, and loses on every handling. The Indian and Egyptian cotton, on the other hand, usually comes in good condition—neat and trim. The bales are cased in a close, compact covering, leaving little or none of the cotton exposed, and are firmly bound with bands, which are rarely out of place.

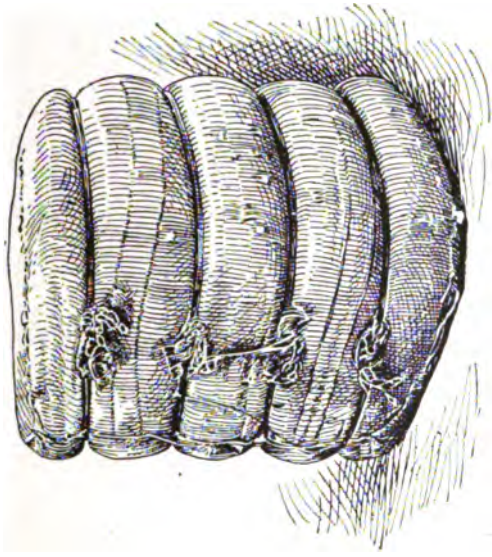
After careful investigation, I am satisfied American cotton suffers in comparison with foreign cotton both on account of the style or manner of covering and the extent of compressing. Dealers in cotton complain of the condition in which American cotton reaches the market and the difficulty they experience in handling it. The covering is torn, frequently hoops are off, the cotton exposed and liable to loss from mud, dust, theft, and handling. It is almost impossible to decipher the marks on the bales, and great confusion and trouble arise therefrom. The marks are well-nigh



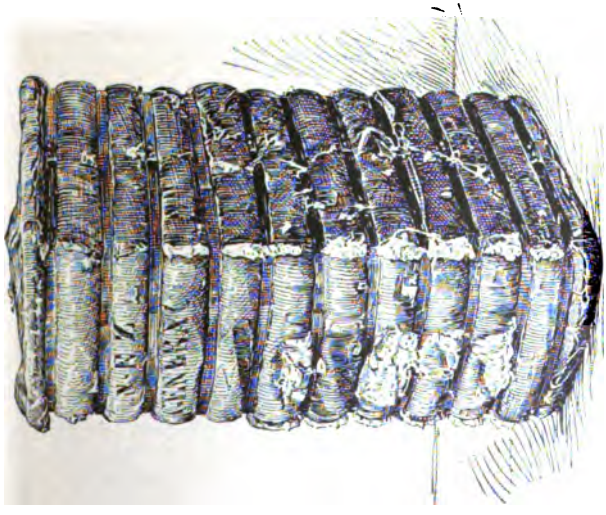
INDIAN BALE.



AMERICAN BALE.



TURKISH BALE.



EGYPTIAN BALE.

invisible on the coarse covering. On the other hand, the Indian and Egyptian cotton comes well and closely covered and wrapped snug and tight. The bales are clearly marked on the sides and on both ends, are easily indentified, and the mixing of bales or bales without marks very seldom occur. The bales are of uniform size, and are more compressed than the American, and thus expense is saved in ocean freight, storage, and freight in the transport wagons to the interior. The American bales vary in size, which also adds to the expense, preventing compact and close storage. Buyers in the interior know exactly, in ordering Indian cotton by the wagon load, how much they will receive, one wagon holding 55 bales. One wagon holds 25 to 28 American bales. This, at the comparative weights of 410 pounds for Indian and 500 pounds for American, gives a freight advantage of from 8,000 to 10,000 pounds per wagon load in favor of Indian cotton. The same holds true as to ocean freight and to storage. The loss in weight on American cotton from the various sources, I am informed, is about one per cent in excess of other cotton, and that, with the increased freight and other expenses, gives about 3 per cent advantage to foreign cotton.

Indian cotton is the competitor of the American, the best grades classing about equal to the inferior grades of American. Spinners prefer the American, and buyers would like to deal more in it, but at present it is as easy to handle 2,000 bales of Indian as 200 bales of American. There is no direct line from this port to Norfolk, Charleston, Savannah, or New Orleans. With the removal of the troubles as to careless and inadequate baling and more thorough compressing, so as to reduce freight to the minimum, it is possible more might be done in the way of direct communication. All of these hindrances act to prevent the freest and fullest use of American cotton.

Cotton can be shipped from India only from January to June, as in June the monsoon sets in, stopping shipments. Holders of cotton in India, knowing this, stiffen prices. Dealers in cotton here would be glad to emancipate themselves from this domination and turn to America, where shipments can be made all the year round; but at present, all things considered, they find it to their advantage to deal mainly in Indian cotton.

Spinners do not think the fiber of the American cotton would be injured by greater compression, and cite Egyptian cotton, which has a long staple and is not injured by the great pressure to which it is subjected.

There is evident and urgent need of amendment in baling American cotton, and more care and attention should be bestowed upon it by cotton producers and cotton dealers, so as to avoid all those defects that work to its disadvantage when it comes in contact and competition with foreign cotton. Whether greater uniformity in the size of the bale could be obtained than now rules is doubtful, as it seems the Indian and Egyptian cotton comes to the native market in bags, without hoops, and is there made into bales for the foreign market. This would account, too, for the neater appearance of those bales and the smaller quantity of bagging used. There is

complaint made by spinners that too much bagging is used on American bales.

The photographs of the different bales speak for themselves, and will probably convey a more complete idea than words. The American bale photographed was one in medium condition, the others in the worst condition.

J. EDWARD NETTLES,
Consul.

TRIESTE, *July 12, 1894.*

FRANCE.

HAVRE.

The information called for regarding cotton baling will be found in detail in my report of August 30, 1893, on "Packing American Goods for Export," published in CONSULAR REPORTS No. 158 (November, 1893), p. 338, and in No. 160 (January, 1894), p. 127.

C. W. CHANCELLOR,
Consul.

HAVRE, *June 6, 1894.*

EXTRACT FROM PREVIOUS REPORT.

That portion of Consul Chancellor's report printed in CONSULAR REPORTS No. 158, and also in No. 160, which relates to baling of cotton, is as follows:

In connection with the subject of packing American products, I would especially call the attention of planters and factors to the superiority of Indian and Egyptian cotton baling as compared with American baling, and also to the bad practice, which is occasionally noticed and greatly to be deprecated, of mixing good and bad cotton in the same bale.

The Indian cotton is pressed into small, compact bales, securely covered with jute, and wrapped continuously, as it were, with iron bands; whereas much of the American cotton arrives here in very bad condition—the iron bands broken and the bagging torn or otherwise mutilated and often rotten from exposure to the elements or from having lain in the water, which causes the weight of the cotton to be fictitiously increased, single bales sometimes weighing 800 pounds. Cotton thus saturated with water and increased in weight is necessarily greatly depreciated in value.

The want of proper attention in the baling of cotton and on the part of the commission merchant in suffering the bales to get wet, thereby increasing the freight on a damaged article, can not fail to injure the market for American cotton, which will ultimately be seriously felt by planters and dealers at home. It is to the interest of all concerned that this matter should be remedied at once.

The careful planter who pays due attention to the baling, as well as the quality, of his cotton will in the end be properly remunerated; but the slovenly one who mixes good and bad together, and does not attend properly to the packing, baling, and shipping of his cotton, will only be able to sell in seasons of scarcity and at greatly reduced prices.

The utmost pains is taken in the packing of Indian and Egyptian cotton shipped to Europe. Compressing is done by steam, and the bales, which are so securely covered with jute as to be almost impervious to the elements, are fastened with at least two iron bands or ties more than are used on the American bales. On an average, 4 bales (say 1,568 pounds net) of Indian cotton go to a space ton of 40 cubic feet; some presses making even 100 bales equal to 21 tons measurement. The Egyptian bales are somewhat larger than the Indian, but are equally well wrapped with jute and bound with iron bands. It is not believed, however, that jute as a covering for bales possesses any special excellence of character, except as to strength and cheapness.

MARSEILLES.

On the quay devoted to the purpose, could be seen this morning at Marseilles bales of cotton from each of the cotton-growing sections of the world, excepting South America; and as some of each variety is being hoisted from the ships, while other bales have been removed and considerably handled since arriving in this port, it is not difficult to observe the relative effects of shipment and handling on the respective methods of baling. In obedience to the directions of the Department, a careful examination has just been made, from which, at least so far as this market is concerned, it must be stated that our system of baling places the American staple at a woeful disadvantage. In times of such fierce competition, when the cotton-growing area of the world is continually increasing, and particularly by reason of the fact that the labor cost in production in our Southern States far exceeds that of any rival, it is difficult to understand why details of this nature are neglected. The following table will indicate weights and measurements of American cotton bales coming to this market, compared with Egyptian, Indian, and Levant. No cotton from Brazil or other South American countries comes to Marseilles.

Comparative dimensions and weights of cotton bales received at the port of Marseilles.

Description.	Length.		Width.		Depth.		Weight.
	Ft.	*In.*	*Ft.*	*In.*	*Ft.*	*In.*	*Pounds.*
American	5	0.6	2	8.7	1	10	495
Egyptian	4	3.1	1	9.6	2	9	726
Indian	3	11.6	1	5.3	1	8.5	396
Levant	3	5.3	2	5.1	2	10.6	352

The American bales are covered with loosely woven bagging, wrapped with seven or eight iron hoops so badly riveted in the beginning that many of the ends have parted in transportation or from handling since arriving here. The coarse, inferior bagging material is torn in many places by the hooks of the men who handle the bales, and through these openings the cotton protrudes, appearing, in many instances, badly soiled.

The average weight of the Egyptian bales is 726 pounds, being 231 pounds in excess of the American; but a reference to the above table will

show that it is contained in a bale 9 inches less in length, 11 inches less in width, and but 11 inches more in depth. It is hydraulically pressed, and as firm and unyielding as a block of wood. It is inclosed in an extra quality of gunny bagging, finely woven and of stout fiber. The hooks of the stevedores seldom tear this covering, notwithstanding the fact that the bales are about one-third heavier than American. The bales are secured by ten iron hoops, each fastened securely by two iron studs.

Indian cotton is contained in a smaller bale than either American or Egyptian. The covering is practically the same as the latter, but the hooping is of a different system. This consists of three iron bands, each making four turns around the bale, and with the ends passed under—not riveted. It is pressed by steam or hydraulic power and is equally as firm in the bale as Egyptian.

The Levant bales are lighter than either of the others, and while the covering is good, the pressure is very slight, and the bales are secured by only four bands, which, however, are usually well riveted.

As above stated, no Brazilian cotton reaches Marseilles. It is usually packed in small bales, weighing from 110 to 150 pounds, neatly covered with good bagging and hooped with rattan cane or wire. The plan is obsolete, being retained only in countries where it is necessary to employ pack mules in conveying the product to market.

Inquiries of dealers as to the most desirable of the methods employed are invariably answered in favor of the Indian, though they usually add that the Egyptian is practically as good. In every instance, they are equally as positive that the American is the worst system in existence.

The high pressure to which Egyptian and Indian cottons are subjected, all dealers affirm, has no evil effect upon the staple. On the contrary, it is advantageous in many ways. It is never yellow from exposure to daylight, and the excellent covering employed, which seldom tears, protects even the outer surface from contact with the dust and dirt on shipboard and at the landing places. An additional item, which may be of less importance, but to which attention is called by dealers here, is that these highly pressed bales are much less liable to injury by exposure to rain, and it is stated that a cargo of Egyptian cotton recently sunk on a sailing vessel in the Mediterranean near Marseilles was raised, after two weeks exposure to the sea, practically uninjured.

The table of comparative weights and measurements accompanying this report will indicate that the Egyptian bale, which contains 231 pounds in excess of the American, will occupy 4 cubic feet of space less than the latter, while the Indian, weighing but 100 pounds less, being approximately four-fifths of the American size, requires scarcely 10 cubic feet, as compared to 24 cubic feet occupied by the American. In view of the fact that each of the great distributing points for cotton must be reached by sea, the item of ship room alone becomes one of the greatest importance, and American cotton, properly baled and hooped, would occupy, it is safe to say, but little

more than one-half, certainly less than two-thirds, of the space at present required.

The opinion held, without exception, by the merchants of Marseilles is that the ideal bale should weigh from 350 to 400 pounds, the latter figure preferred; that the cotton should be compressed into dimensions similar to the Indian, and that the bale should be hooped according to the latter system.

CLAUDE M. THOMAS,
Consul.

MARSEILLES, *November 28, 1894.*

GERMANY.

BREMEN.

The average weight of the Texas cotton bales received at Bremen is 551 pounds, and the bales are about 5 feet long, 3 feet wide, and 2 feet thick. The average weight of the New Orleans cotton bales is 496 pounds, and they are about 5 feet long, 2 feet wide, and 1 foot 6 inches thick. The upland cotton bales differ in weight and size considerably; they weigh from 276 to 660 pounds and are from 5 feet to 6 feet 8 inches long, 2 feet 4 inches wide, and 1 foot 6 inches thick. The Brazilian cotton bales also differ in weight; they weigh from 99 to 276 pounds. The average weight of the East India cotton bale is 386 pounds, and it is about 4 feet long, 1 foot 6 inches wide, and 1 foot 7 inches thick.

The best packing of American cotton is done in the Gulf States—Alabama, Mississippi, and Louisiana. The cotton bales from these States arrive at Bremen in a far better condition than the upland cotton, as the material of covers and wrappers is a superior one and the packing itself more accurately done. The bales are mostly packed in two breadths of wrappers, so that there is one extra breadth on each side of the bales, which, at the same time, covers the heads of the bales. The bales are equal in size, and this gives the whole lot a good appearance.

Cotton bales from Texas are generally furnished with seven iron bands of good material. The Texas cotton bales weigh more than all other bales, although they are not as strongly pressed, owing to the dry character of the cotton, which does not permit as close compression as damp or moist cotton.

The packing of cotton in Tennessee, Missouri, and Arkansas is done in the same manner as in Texas. The wrappers and bands are of equal quality, but their weight is less than that of Texas bales. The bales are also furnished with seven iron bands, when pressed.

The packing of cotton in Virginia, North Carolina, South Carolina, and Georgia is very inferior. The bales are not of equal size and vary greatly in weight. The packing and wrapping are of inferior quality, and there is no uniformity in the packing of the bales. Some of these bales have

three breadths of wrapper, and smaller or larger pieces of wrappers are frequently found underneath the bands, of which there are also seven; and these larger or smaller pieces of extra wrappers account for the difference of weight.

It occurs frequently that bales packed in two breadths of covering have, in addition to the above-mentioned pieces of wrapper, so-called side strips, which are completely pressed together. These side strips do not protect the cotton from damage, but raise the tare to a considerable extent. The covers and wrappers of such cotton bales received at Bremen have frequently been weighed, and have been found to weigh up to 57 pounds, without the bands. Notwithstanding the exorbitant wrapping of these bales, they arrive at Bremen in an extremely bad condition, for the reason that the material used for the coverings and the wrappers is of the poorest quality and consists either of thin, old linen, old coffee bags, or similar kinds of cloth which are liable to tear at first handling.

The shipping marks on these bales are, in a great many cases, hardly visible, owing to bad marking in the first place, and also to the torn condition of the covering. On many bales no marks can be detected.

Upland cotton is generally very compactly pressed, on account of the cotton being in a moist condition. From such pressing, the staple suffers greatly. The cotton has a musty smell; it decays rapidly, and becomes much impaired if stored for any length of time.

The quality of covering used in Virginia, North Carolina, and South Carolina ought to be greatly improved. The meshes of the covering material are too wide and netlike, so that they do not protect the cotton in any manner; and the bales arrive at their destination in a condition which causes considerable loss of weight. Such defective bales are very dangerous goods to transport, owing to the risk of fire.

It is high time that the shippers of cotton in the United States should take notice of the many complaints made for quite a number of years, and that they try their best to change a condition which is apt to ruin their trade, especially as they now have to deal with competitors from India and Egypt.

The packing of cotton in India, as regards practical material and durability of wrappers and coverings, is undoubtedly far superior. The bales from India are all of the same size and weight, and are packed in closely woven wrappers of jute, which cover the cotton so completely that not a particle of damage is visible, while the weight of the material is much less. The India cotton bales are pressed in three sets of bands of excellent material.

Cotton from Brazil is poorly packed in thin and tearable linen. Instead of iron bands, they use a kind of vegetable band of strong fiber. Their weight differs considerably, being loosely packed, almost without pressure. For a number of years Egyptian cotton has not been imported by Bremen merchants.

In the year 1893, 862,964 bales of cotton were imported at Bremen, of which 847,979 bales were from the United States, 12,496 bales from East India, and 2,489 bales from different countries (Brazil, Venezuela, etc.).

HUGO M. STARKLOFF,
Consul.

BREMEN, *June 20, 1894.*

CHEMNITZ.

The Austrian and German spinners are making efforts to secure better packing of American cotton. The Austrian Spinners' Union wrote to Director Stark, in Chemnitz, asking that Germany be urged to cooperate. The Bremen Cotton Exchange, the spinners of Saxony, southern Germany, including Alsace-Lorraine, Baden, and the Palatinate, and the spinners of Bavaria have held meetings and are unanimously of the opinion that American cotton growers should be asked to pack as they were wont when jute was dear. I have on my desk practically all the important correspondence that passed between the unions on the subject. It was hoped that planters might be induced to press more closely; but when it was urged that the cotton-planting industry is spread over eight or ten States, that the machinery now used would have to be replaced by better presses, etc., it was concluded to ask only that the cotton be better packed.

Advantages of better packing are:

(1) The cotton would be better covered and protected from fire, dirt, and loss. The packing or covering used two years ago caused the cotton to come into Chemnitz and Saxony in the very best condition.

(2) Marks and numbers can be much better made and preserved on the fine covering.

(3) The danger from fire would be minimized, since none of the cotton lies loosely exposed.

(4) The packing proposed does not weigh within 50 per cent as much as the rough jute used now; hence, a saving in freight.

(5) The new covering could be used for fifty purposes while the present has no value. The kind urged by manufacturers here as the very best to use could be cut up and sold for dishcloths and scouring rags. Besides, the South could make it, giving employment to labor and using up 150,000 to 200,000 bales of cotton annually in its manufacture. Of course, commerce must adjust its tare rates should this proposed packing be adopted.

It was proposed to order only from producers willing to use this packing. To begin slowly and ultimately urge all planters to adopt it, is the policy that found favor.

It is not necessary to urge the importance of good packing. At every point a gain is made. Customers are satisfied, losses of all kinds are minimized, and freight and insurance rates are reduced. Saxony alone, I was told, takes 200,000 bales of cotton. American cotton is preferred for general

work; but with China entering the market (some of her cotton has come in here within a year), Egypt extending her cotton territory, and India already in the market, it will pay to give some heed to what manufacturers urge.

Next in importance to the covering are the bands. There should be eight or ten at least. The Egyptian bales have twelve and thirteen. Of course, what is saved in freight by the finer packing will be lost again in the increased number of bands; still, the gain is so great that it will pay to put them on.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *May 20, 1894.*

HAMBURG.

Besides the comparative dimensions and weights of American, Egyptian, Indian, South American, Chinese, and Lagos cotton bales, the following table shows the character of the material both as to wrapping and bands used in covering them:

Quality.	Weight per bale.	Length.	Width.	Height.	Covering.	Bands.
	Pounds.	*Ft. In.*	*Ft. In.*	*Ft. In.*		
American	286 to 660	5 5	2 6	1 11	Jute wrappers..	7 iron.
East Indian	402	4 1½	1 6	1 7½	.....do.....	3 long iron.
Chinese	539	4 1½	1 10	1 5	.....do.....	Do.
Lagos	158	2 5½	2 6½	1 8½	.....do.....	Ropes.
Egyptian	755	4 1	1 10	1 5	.....do.....	3 long iron.
Pernambuco	220	4 1	1 6	1 7	.....do.....	Ropes.

It will be noticed that the wrappers, in all cases, consist of a jute fabric, those covering American bales being much more loosely woven than all others. With the exception of Lagos and Pernambuco bales, which are bound with ropes, all bales are held together by means of iron bands. American bales have seven bands which encircle them only once, while most other qualities have three only, but of such length that they can be passed around the bale several times.

With the exception of American, all cotton bales arrive here in good condition with regard to the covering material and the contents. American bales, generally, arrive with the bands partially or entirely off, the wrappers torn or even the entire bales burst open. The reason for this is to be sought, (1) in the loosely woven jute-bagging wrapper, (2) in the poor manner of fastening the bands, (3) in the loose compressing of the bales, (4) in the careless handling by the stevedores in the American port of shipment, and (5) in the compressing of the bales in the interior.

The compressing of bales from other countries than the United States is much tighter, and is generally done at the port of shipment. In our country, the bales are comparatively lightly compressed, and this, as stated, is gen-

erally done in the interior. The bales have to undergo a great deal of rough handling by the stevedores, who are ever ready to screw the bales into spaces hardly large enough to hold them, before they even reach the exporting vessel.

The chief advantages of good packing and tight compressing are the following: (1) Saving in freight; (2) durability of marks and numbers, thus avoiding exchanging of bales; (3) rare bursting of bales; (4) little or no loose cotton; (5) outward damage does not easily penetrate into the bale; (6) quicker unloading. These advantages are seldom possessed by American bales, while they are enjoyed by nearly all those of other origin.

The Hamburg Association of Cotton Firms recommends that the American stevedores be instructed not to pack the bales in a vessel so tightly and not to split the bales in order to get them into a space not large enough for a common-sized bale. The association also recommends the using of a better quality of jute bagging, more closely woven, and that the captains of vessels be warned not to receive aboard their vessels bales which are not completely covered with bagging and the iron bands of which are not all intact and properly fastened.

I should say, for the reasons above stated, that American cotton does suffer both directly and indirectly by comparison with foreign cotton on account of the style or manner of covering and the quality or extent of the compressing, and, I trust, in the interest of all parties in the United States connected with the exporting of cotton, that the efforts to remedy the defects in the packing, compressing, and baling of American cotton will be warmly indorsed and supported by all other parties interested. Any efforts with this end in view will be a step in the right direction.

I inclose two copies of "Rules of the Hamburg Cotton Association" for American and East Indian cotton, both of which contain much general information which may be of interest to American cotton growers and merchants.*

In conclusion, I would mention that I am indebted, in great measure, to Mr. I. H. Bachmann, commission and forwarding agent of this city and Bremen, for the information contained in this report.

W. HENRY ROBERTSON,
Consul.

HAMBURG, *June 30, 1894.*

RULES OF THE HAMBURG COTTON ASSOCIATION RELATING TO AMERICAN COTTON SOLD ON COST AND FREIGHT TERMS.

SECTION 1. Bales to have an average weight of 215 kilograms, equal to 475 American pounds, gross weight; for Texas, however, of 235 kilograms, equal to 520 American pounds, gross weight, differences of 5 per cent above or below being permitted.

SEC. 2. If cotton is sold for shipment (clearance or sailing) and the seller should fail to make shipment within the time specified in the contract, the buyer shall have the right of

*Rules for East Indian cotton filed in the Department of State.

closing the contract (by invoicing back) at the market value on that day, to be settled by the committee of arbitration, if necessary, plus one pfennig per half kilogram penalty.

The buyer is bound to give the seller written notice of his intention to close the contract within ten days after the ship in question is known here to have cleared or sailed.

If he should not have received the invoice or shipping documents within this time, he is bound to give written notice of his intention to close the contract at the latest on the day after receiving the documents. Both parties shall be entitled to show proof of an error, if any.

When contracts are closed in this manner, the weight per bale shall average 202 kilograms net (475 pounds American gross) for North American cotton, excepting Texas, which shall average 220 kilograms net (520 pounds American gross).

SEC. 3. The time for shipment, clearance, or sailing, as stipulated in the contract, shall not be considered fulfilled unless proved by the shipping documents, or, if the buyer do not receive from the seller within four weeks from the date or month named for fulfillment of contract, invoice or other written notice of marks, or ships' names, or details of through bills of lading which prove the fulfillment of contract.

When sold for prompt or immediate shipment (clearance or sailing), it shall be understood that the shipment (clearance or sailing) shall take place within fourteen days from the date of contract.

SEC. 4. When the ship's name is mentioned in the contract or the cotton is sold shipping or shipped, it shall be understood, unless otherwise agreed, that at the date of contract the ship is in or has already sailed from the port of shipment.

But should it afterwards appear that the ship had not, at the date of contract, arrived at the port, the buyer shall, on becoming aware of the fact, have the option of at once closing the contract by invoicing back at the market value, plus one pfennig per half kilogram penalty, as provided in section 2, or of requiring the completion of his contract by the declaration of cotton by a ship that had sailed from, or arrived at, the port named at the time the contract was made.

SEC. 5. The gross landing weight of American cotton shall be ascertained in the following manner:

(*a*) The bales shall be weighed full weights at the landing before sampling.

(*b*) The weight of missing bands and loose cotton shall then be added.

(*c*) When cotton is sold cost and freight (respectively, cost, freight, and insurance), with 6 per cent allowance, the weight per 100 bales of the iron bands shall not exceed 408 kilograms and the canvas $3\frac{9}{16}$ per cent upon the whole lot. The $3\frac{9}{16}$ per cent shall be calculated upon the invoice weight, less the franchise and the weight of bands as ascertained here; any excess of tare to be deducted from the gross landing weight. The expense of ascertaining the tare shall, in case of any excess, be paid by the seller, otherwise by the buyer. The ascertaining of the tare shall take place at the landing port.

(*d*) In the case of damaged bales, the allowance to be deducted from the gross landing weight for water shall, if the bales are not picked, be one-sixth of the weight estimated for the insurance claim for sea damage and one-twelfth of the estimated weight of country damage, and if the bales are picked, the same fractions of the pickings shall be deducted. The seller may demand that he be present (or be represented) when the cotton is picked or the damage estimated, but he shall pay his own expenses. The buyer is bound to inform the seller or his representative that the cotton will be picked or the damage assessed.

(*e*) Extraordinary "damp" must be proved when the gross landing weight is ascertained, or, at the latest, at the time of sampling at the landing port, and the amount deducted from the landing weight. In case the parties or their representatives can not agree upon an allowance, the allowance shall, at the request of either party, be fixed by an expert appointed by the committee of the association, whose decision shall be binding for both parties, provided appeal has not been lodged by either party with the committee within twenty-four hours after receipt of the certificate of the expert, in giving at the same time information to the opposing

party. The committee shall in such cases appoint three experts as an appeal committee for a final settlement of the matter in dispute and the stipulation of the allowance.

The fees of the experts, as well as of the appeal committee, shall be fixed according to the tariff stipulated in the *regulativ* of the cotton sample room, the fees for the expert to be paid by that party whose demand for an allowance differs most from the expert's award. In case the award be the average of the allowance offered and claimed, each party shall pay one-half of the fees. In the event of appeal, the appellants shall pay the whole of the fees, provided no change was caused through the appeal in the decision of the experts, otherwise both parties to pay one-half of the fees. All charges for the breaking and turning down of the bales and assistance at the examination by the experts to be paid by the party for whose account the cotton is warehoused.

SEC. 6. Bales weighing less than 135 kilograms or more than 300 kilograms gross, unless specially agreed at time of sale, shall not be tendered.

SEC. 7. The guaranty for weight as stipulated in the contract shall be understood to refer to the contract as a whole, whether the cotton be shipped by one or several vessels. Condemned bales or bales not delivered from the ship shall be accounted for at the average invoice weight without further allowance for franchise. If more than one-eighth (12½ per cent) of the number of bales sold in one contract should not be delivered, the shipper or seller is no longer liable for the guarantied weight. No-mark bales compulsorily received from the ship shall be considered properly delivered as regards weight and for the guarantied weight be calculated at the average gross invoice weight. If the actual gross landing weight should vary more than 5 per cent from the average gross weight allowable under section 1, the buyer may demand that the difference in weight exceeding 5 per cent be settled for at the market value on the last day of landing. But if the actual gross landing weight does not show any deficiency as against the gross invoice weight, the latter shall hold good for the settlement of the variation.

SEC. 8. When cotton is shipped by several vessels, unless otherwise agreed, the cotton out of each vessel shall be considered as one shipment and be classed or arbitrated and accounted for separately. It is, however, agreed that, should parts of one lot be shut out by a vessel without the fault of the shipper, the same shall be classed and accounted for together with the whole lot. Indirect shipments (from a southern via a northern port or from an interior town) on one through bill of lading from the original shipping point shall, however, be considered as forming one shipment, even if the same should be shipped from the last shipping point in several vessels. The seller is also liable for inferiority of quality in bales not delivered from the ship and in those no-mark bales allotted to the consignees, the allowance fixed by the classers for the number of bales delivered with proper marks holding good for the above bales. Bales not delivered owing to sea damage or total loss shall not be included.

SEC. 9. When cotton is not sold "basis," and the various lots by one vessel average the grade or quality sold, such lots shall be considered equal to contract. Slight variations in marks shall not be deemed material or entitling to claims.

SEC. 10. Whenever the number of bales is stated "about" (*circa*) the seller shall have the right to deliver up to 5 per cent more should the lot turn out larger, and up to 5 per cent less should the lot turn out smaller, than the quantity stated in the contract. The seller shall, however, inform the buyer of the exact number of bales as soon as possible.

SEC. 11. Applications for arbitration on quality, etc., shall be made within four weeks from the last day of landing of the cotton.

SEC. 12. The valuation and arbitration of the cotton shall be done by classers appointed and bound to impartiality by the committee. In case of prevention, the committee shall appoint a substitute, who also is to be bound to impartiality. The fees for the classing shall be 20 pfennigs per bale. The committee collects the fees for its account, but not below 6 marks for each certificate of classification.

SEC. 13. Samples to be drawn jointly shall be properly sealed, and then sent by the buyer to the cotton sample room without delay when application for arbitration has been

made. Samples of at least one-fourth of a kilogram in weight to be drawn of each bale. The drawing of samples to be done in the port of landing, if not otherwise agreed.

SEC. 14. In the event of an application, respectively, an appeal for arbitration being lodged with the cotton sample room as to classing or deficiency in quality of the cotton, fresh samples may be ordered to be drawn by the classers, respectively, the appeal committee, if they deem it necessary and if it be still practicable at the port of landing.

SEC. 15. Applications to the cotton sample room for arbitration shall contain the name of the opposite party, if it is intended that the cotton sample room shall send the certificate relating to the valuation or classification to the latter. If the opposite party is not named, the buyer himself must deliver the certificate, and, if the seller resides at Hamburg, on the following day before 12 o'clock noon. Each seller is entitled to demand the direct delivery of the certificate to himself or his representative previously appointed. If the buyer neglects to deliver or forward the certificate in time to the opposite party, he loses the right of claim. The cotton sample room will send certificates by mail to firms abroad not represented here, but at their own risk; upon request they will be sent by registered letter, charging the expenses for postage.

SEC. 16. The arbitration fees for cotton sold "basis" or with mutual allowances shall be paid jointly by both parties. If the buyer demand a decision from the cotton sample room upon the outturn of cotton, as regards a deficiency in class or quality, the arbitration fees shall be borne by the buyer on such lots as pass or when the allowance does not amount to the sum of the fees, and by the seller if the allowance is greater, and shall be borne in the same manner, even if in case of appeal the decision from the cotton sample room be changed with the exception of such lots as are declared passed by the appeal committee, in which case the arbitration fees shall be borne by the losing party.

SEC. 17. The awards and certificates of class signed by the classers shall be binding on both parties concerned, provided written appeal be not lodged with the committee by one of them at the latest on the third working day from the date of the certificate of the cotton sample room, notice of such appeal to be given to the other side at the same time. In case of appeal, the committee shall appoint three experts as an appeal committee, who shall adjudicate on the samples already drawn, unless they consider it necessary to have the cotton resampled, provided this be still practicable, in the port of landing. The award or valuation, as the case may be, of the classers shall be laid before the appeal committee, without mentioning, however, the side by which the appeal has been made. The fees of the appeal committee shall be charged to the appealing party, if the award be confirmed; if not, they are to be paid by buyer and seller jointly. These fees amount to 40 pfennigs for each bale up to 300 bales and 20 pfennigs for each bale beyond 300 bales, rounding off the fees to 10 marks should the actual amount be smaller, and not under 50 marks for each award. The committee collects the fees for its account, paying one-fourth of them to each of the members of the appeal committee.

SEC. 18. The standards shall be based upon the standards of the Liverpool Cotton Association. Standards of such descriptions of cotton, however, of which it is impossible to obtain copies of official standards in Liverpool, Hamburg standards may be made up independently. The standards are under the care of the committee. American cotton shall be classed in quarter grades. Allowances and the differences between the grades shall be fixed according to the Hamburg market value, but if such can not be fixed exactly, the allowances, etc., shall be based on the market value in Liverpool.

SEC. 19. Arbitrations upon cotton sold to be of a particular grade shall be settled by placing the bales of higher grade against the bales of lower grade and passing whatever part turns out an average of the grade sold, making an allowance on the remainder.

SEC. 20. If it has not been expressly stipulated, in sales of American cotton, that red, stained, or high-colored cotton may be delivered, the buyer has only to receive such red, stained, or high-colored cotton with an allowance for the difference in price according to the market value, and except the quantities being unimportant (about 5 per

cent), with a penalty of one pfennig per half kilogram to be paid extra by the seller to the buyer.

SEC. 21. When cotton is sold equal to American-drawn samples of the identical lot, one-fourth grade shall be allowed for bloom at arbitration.

SEC. 22. It shall always be understood that American cotton shall grade even running unless average has been expressly stipulated. Even-running lots may contain variations in grade to half grade above and to half grade below the grade named, bales above compensating for bales below.

SEC. 23. Cotton sold on sample or of a specified grade, in case of inferiority, shall be taken by the buyer with an allowance according to the market value, but the seller shall pay the buyer a penalty of one pfennig per half kilogram upon all bales falling more than half a grade below the selling sample or specified grade (small quantities—about 5 per cent—not to be considered). Should the average of the whole lot be inferior to the selling sample or specified grade to the extent of a whole grade or more the buyer shall further receive a penalty of 2 pfennigs per half kilogram.

Cotton sold to average a specified grade, without a clause in case of inferiority, shall be taken by the buyer with an allowance according to the market value. Should the average of the whole lot be inferior to the grade specified, to the extent of a whole grade or more, the seller shall further pay the buyer a penalty of 2 pfennigs per half kilogram.

But if cotton is sold to average a specified grade with a clause "nothing below" (average middling nothing below low middling, etc.), in case of inferiority it shall be taken by the buyer, but the seller shall pay the buyer, in addition to the allowances as provided in paragraph 2 of this section, a penalty of one pfennig per half kilogram upon all bales falling below the guaranty clause (small quantities—about 5 per cent—of bales falling off not to be considered).

SEC. 24. The seller shall make allowances for falsely or fraudulently packed or rebaled cotton; if the allowance, however, amounts to 5 marks or less per bale, it shall not be considered. Such allowances shall be fixed by the cotton sample room. Claims for rebaled bales shall only be allowed at the scales. Claims for falsely or fraudulently packed bales shall not be allowed when the cotton has not been properly examined immediately after being received and the seller forthwith notified of the defects, or in case of hidden defects (such as have not been discovered in spite of proper examination immediately after the bales were received) the buyer should not immediately, on becoming aware that the bales are falsely or fraudulently packed, have notified the seller of the same, or when such claims, proper certificates being attached, have not been sent in within one hundred days from the day of delivery; further, when the buyer can not prove the identity of the bales. Cotton shall not be considered falsely packed, more especially in the lower grades, when only a slight irregularity exists, which has been fairly represented in the samples. If nonsteam-compressed bales are delivered, the buyer shall have the right, if the necessary appliance be at hand, to compress the bales at the expense of the seller or to hold the seller responsible for any loss arising from the bales not being compressed in the customary manner.

SEC. 25. Whenever, in the rules of the Hamburg Cotton Association, a time is appointed for written notices, such notices must be served at or within the time appointed. If a party to a contract be not resident in Hamburg, it shall be sufficient that notices or declarations be served upon his agent or representative previously appointed, who shall have the right and be bound to perform for such party and in respect thereof all necessary acts required by the rules of the Hamburg Cotton Association. If a party to a contract be neither resident nor represented in Hamburg, it shall be sufficient that the notices be forwarded here at the time appointed. If there be more than two parties interested in an appeal or award or application, and one party give notice within the prescribed time, the notice shall hold good for each successive party, provided it be passed on without delay.

SEC. 26. If before maturity of a contract either buyer or seller suspend payment and make judicial or private arrangements, the other party may demand immediate security for the ful-

fillment of the contract, and in case such security be not given on or before the second day after the day of such written application may close the contract at once according to section 2.

SEC. 27. All disputes that may arise from transactions based upon the conditions mentioned above shall be finally, and without right of appeal, settled by a committee of arbitration consisting of three members, each party appointing one and the committee the third member, which latter shall preside, the regulations of the arbitrating committee to apply in all such cases.

SEC. 28. For nonmembers of the association resident in Hamburg all fees stated in the foregoing rules shall be increased by one-half, with the exception of those mentioned in section 27.

SEC. 29. Additions to and alterations of these rules must be specially mentioned in each contract.

GREAT BRITAIN.

LIVERPOOL.

American bales of cotton received at Liverpool weigh from 290 to 878 pounds, and measure from 4 feet 6 inches by 3 feet 4 inches by 2 feet 3 inches to 6 feet 6 inches by 3 feet by 2 feet. Egyptian bales weigh from 672 to 840 pounds, and measure about 4 feet 3 inches by 2 feet 7 inches by 1 foot 10 inches, say 20 cubic feet. East Indian bales weigh as follows: Surat, from 346 to 431 pounds; Madras, from 460 to 486 pounds; Tinnivelly, from 499 to 531 pounds, and measure about 4 feet 1 inch by 1 foot 10 inches by 1 foot 4 inches, say about 9 cubic feet. Brazilian pressed bales weigh from 367 to 428 pounds, and measure about 4 feet 1 inch by 1 foot 10 inches by 1 foot 5 inches; unpressed weigh from 100 to 419 pounds and measure from 2 feet 10 inches by 2 feet 9 inches by 1 foot 4 inches to 5 feet 6 inches by 2 feet 6 inches by 1 foot 3 inches. Peruvian bales weigh from 109 to 504 pounds, and measure from 2 feet 6 inches by 2 feet 1 inch by 1 foot 8 inches to 5 feet 6 inches by 3 feet 4 inches by 2 feet 10 inches.

American bales are generally covered with a coarse, loosely woven bagging, easily torn, and quite incapable of bearing the handling they are subjected to in transit. Generally speaking, the bales are bound by seven iron-hoop bands, each band being fastened by an iron tie or buckle; the bands with ties vary in weight from 10 bands =12 pounds to 10 bands=24 pounds. Cotton from the other countries named is covered with closely woven, strong, but not heavy, canvas, and, with the exception of cotton from South America, is bound with iron bands. South American cotton is bound chiefly with twigs or ropes, but in some ports of Brazil and Peru, the bales are bound together by iron wire or bands. Egyptian bales have about 11 bands, 10 bands=16 to 18 pounds. East Indian bales are bound by 3 bands, sometimes of equal length, each length passing three times round the bale, by one long and two short, and sometimes by one short and two long, bands, the total turns round the bale being about the same in each case. The weight of the bands runs from 2 to 4 pounds per bale. On pressed Brazilian bales there are 10 bands=33 pounds and there are two on each bale. On

unpressed Brazilian bales, the binding is very irregular, but the weights run as follows: Bands, 10=16 pounds; twigs, 10=16 pounds; wires, 10=3 pounds; ropes, 10=4 pounds. Peruvian bales are bound by three to four wires, or three bands, and some heavy bales have six wires. Light wire, 10=3 pounds; heavy wire, 10=12 pounds; bands, 10=3 pounds. Covers weigh from 5 to 14 pounds, according to size of bale. Accompanying this report are specimens of some of the various materials used to cover the cotton from the several countries named, some of that from the United States, it will be seen, more resembling a net than canvas.*

Owing to the nature of the bagging described above, most American bales are landed in a very ragged condition, with the cotton much exposed, and either because of the poor material of the iron bands, and especially the ties, or because of the extremely rough treatment on the railways or steamships, great numbers of bales are landed with several bands missing. In consequence of the pressure of the bands being removed, the bales have expanded and burst the covering, the cotton in the loose part of the bale merely holding together by its own tenacity. Sometimes, bales are completely broken up and are landed in bulk. Unless the bales have been lying in wet or mud before having been shipped on the railways or steamships, and have become what is known to the trade as "country damaged," the quality of the article does not deteriorate. Cotton from the other countries mentioned is landed in excellent condition, with, perhaps, the exception of unpressed cotton from Brazil, which is not in good condition.

American cotton, owing to the serious defects in packing mentioned, suffers seriously as compared with cotton from other countries because of the great loss which is caused by many bales heing landed in a torn, loose, unbound condition; not a loss caused by deterioration of the quality of the contents, but a loss in weight, a loss in cost of making the bales merchantable; a loss owing to the difficulty of identifying the bales, many of them having marks torn away, and the cost of apportioning them among the claimants amounts to a considerable sum; a loss when cotton is landed in bad weather by its gathering dirt and absorbing moisture; and, of late, a loss owing to the imposition by the fire-insurance offices of a very heavy discriminating tariff against cotton as compared with other goods, solely on account of the heavy losses by fire of American cotton, it being alleged that the meshy nature of the canvas used and the ragged condition of the bales when landed and warehoused in Liverpool render American cotton peculiarly liable to take fire.

Much of the bad condition in which American cotton is landed is due to the practice of packing it in bales of irregular sizes, many of which stevedores at the American ports reduce in length by cutting off the ends to facilitate stowing. These stevedores also cause much damage by screwing the bales in the ship's hold, by which process the covering is torn, and such a degree of tightness is attained that many bales have to be torn out on this side by steam power, causing further serious damage to the covering. This

* Samples filed in the Department of State.

practice of screwing seems to be confined to vessels loading in the United States ports.

There is a growing practice in America, it is stated, of putting bagging on bales, not for protective purposes, but simply to make weight; on many bales there are numerous folds of bagging at the ends where they serve no useful purpose.

A special committee appointed to consider the subject of tare on American cotton reported that—

> Double canvas is frequently put on the top, bottom, and even sides of bales, and sometimes over the entire bale (indeed, in many cases it is trebled and quadrupled in parts), the object of which can not be but to fraudulently add to the weight of the bale. (See copy of report annexed, which was adopted by the Liverpool Cotton Association on July 23, 1894.)

The custom of this market has been for the buyer to take American cotton with an allowance for tare of 4 pounds per 112 pounds, and, until lately, this custom worked satisfactorily; but now, for the above reason, the buyer has been given the right to demand actual tare, which necessitates the stripping of 10 per cent of the bales, entailing expense which was not formerly incurred, which, of course, will now deprive American cotton of the advantage of not having to be tared, which it formerly possessed over Egyptian and Indian cotton.

The Liverpool Cotton Association has received a letter from the New York Cotton Exchange stating that they are informed that the Southern cotton mills are reselling the old bagging to planters, who use it again, thus covering bales with half-used-up material, insufficient for proper covering without extra bagging.

I annex copies of letters addressed to the American cotton exchanges by the Liverpool Cotton Association asking them to lend their aid in remedying these grievances, the existence of which, no doubt, causes much direct loss to fall upon American planters, factors, shippers, and railways.

In conclusion, I may add that the Liverpool Cotton Association, to whom I am indebted for the foregoing information, expresses the hope that the attention of the American cotton planting and transporting interests may be drawn to these growing evils, which, they say, are steadily prejudicing American as compared with other cotton, and they recommend, in the interest of American trade, a better style of packing and a uniform size of bale.

JAMES E. NEAL,
Consul.

LIVERPOOL, *September 27, 1894.*

LETTERS FROM THE LIVERPOOL COTTON ASSOCIATION.

THE LIVERPOOL COTTON ASSOCIATION,
Liverpool, April 18, 1894.

To the President of the New York Cotton Exchange, U. S. A.:

DEAR SIR: The directors of this association desire to call your attention to the matter of the irregular length of bales often shipped from cotton-buying points in America.

This association has, through its committees, had much to do with the supervising of the landing of cotton at this port. The amount of loose cotton which often attends the discharge of ships here, especially from Gulf ports, is a matter of great complaint and serious loss. A large portion of this loose cotton comes from the hold of the ship, and arises in many cases from the ends of the bales being cut off or "plucked" to maintain fair rows in loading. The fact is, that only a small percentage of cotton is baled in excess of the usual length for ordinary bales. It is not reasonable to suppose that the valuable room in ships' holds can be wasted and taken up by odd lengths which will not allow of even stowing.

The inevitable plucking and tearing of the bales may be, and probably often is, the cause of the heavy loss in weight claims, which eventually falls upon the planter. It is evident that it is to the interest of all concerned that a remedy should be found for such an evil.

This association is clearly of opinion that some standard should be fixed as to the length of the bales, so that serious loss and damage may be averted. To that end, they ask the cooperation of your exchange in the way of legislating upon a standard length within certain reasonable limits, and declaring cotton beyond or under these limits unmerchantable and subject to some such penalty as would put a stop to that system of irregular baling. We may say that we have the hearty cooperation of the steamship people in this matter, who would regard the change as a distinct advantage to transportation and a saving in the outturn weight of cotton.

Yours faithfully,

T. A. WOOLLEY,
President.

THE LIVERPOOL COTTON ASSOCIATION,
Liverpool, June 23, 1894.

To the President New York Cotton Exchange, New York, N. Y.:

DEAR SIR: I beg to draw the attention of your exchange to the growing practice on the part of planters and press owners of overtaring American cotton. Complaints have this season been loud and widespread that canvas is placed in America upon the bales in quantities incommensurate with the need for protection and covering; that this is done by putting the canvas upon the bales, in pillow fashion, rolls of canvas which can serve no other purpose than that of fraudulently adding to weight of the bale.

This practice has entailed severe losses in the form of claims for excess of tare upon our members, claims which it is difficult to establish and collect in America.

A rule obtains in this market, based upon long-established custom, that canvas must only be placed upon the bales in single layers for due protection of the goods, and buyers have the right to refuse to receive cotton canvased in excess of the requirements.

This association has seen letters from the Farmers' Alliance of some States which express strong disapproval of such practice, and no doubt if the cotton exchanges draw the attention of factors to the matter, and pass a stringent rule against excessive taring, they will be supported by the Farmers' Alliance, and the evil complained of will speedily be removed.

I am, dear sir, faithfully yours,

R. C. BEAZLEY,
President.

EXCESSIVE TARES ON AMERICAN COTTON.

Following is the report of a special committee of the Liverpool Cotton Association (limited) on American tares:

The committee appointed to inquire into the question of excessive tares on American cotton report as follows:

That the practice of overtaring cotton in America has been increasing during the past few seasons, and has now become very general.

That complaints arise chiefly on cotton shipped from Georgia and North and South Carolina, but that the custom of overtaring is rapidly spreading to all the cotton-growing States.

That heavier canvas is being used—up to 3 pounds per yard.

That double canvas is frequently put on the top, bottom, and even on the sides of bales, and sometimes over the entire bale (indeed, in many cases, it is trebled and quadrupled in parts), the object of which can not be but to fraudulently add to the weight of the bale.

That the practice of thus overtaring cotton is detrimental to the interests of the trade.

That it is exceedingly difficult to detect overtares which have been put on before pressing, as the canvas is under the bands.

In order to remedy the evil, the committee recommend the adoption of the following suggestions:

(1) That when the buyer of any lot of cotton shall have reason to suspect that the weight of the tare exceeds the recognized weight of 4 pounds per cwt., he can give notice to the seller that he wishes actual tare. Thereupon the seller shall ascertain the actual tare by stripping 10 bales out of each 100 bales, to be selected indiscriminately, and the percentage of tares thus ascertained shall be the tare of the lot. Should the tare prove not to exceed 4 pounds per cwt., the whole expense of taring shall fall on the buyer, otherwise it shall be borne by the seller.

(2) That it is desirable that the leading cotton exchanges in America and on the Continent be asked to cooperate with this association in its endeavor to use means to remedy the grievance.

(3) It was further agreed to recommend that the following ruling of the board (January 7, 1889) be embodied in the by-laws of the association: "That in receiving cotton from the warehouse the buyer can demand the removal of double canvas before weighing." As this ruling renders double canvasing illegal as between seller and buyer in Liverpool, it should also do so between the seller in America and the buyer in Liverpool, and no more canvas should be allowed to be on a bale than is required to properly protect it.

REGINALD HAIGH,
Chairman Special Committee.

LIVERPOOL, *May 31, 1894.*

LONDON.

The raw-cotton trade of the port of London is steadily declining, the main cause being the long haul and heavy freight charges from London to the cotton-manufacturing points, as against the short haul and consequently light freight charges from Liverpool. The arrivals of raw cotton at London are almost entirely from India and in quantities to make up cargoes. A whole cargo of cotton to be landed in London is very unusual and may fairly be called a thing of the past.

The size and weight of the bales are uniform—4 feet by 2 feet by 1 foot 4 inches; 410 pounds gross; tare, 9 to 10 pounds, leaving 400 pounds of cotton. The bales are packed very tightly in canvas, with bands of hoop iron, fourteen around each bale. When removed, the bands are in three lengths of 18 feet each.

It is reported by spinners that East India cotton is delivered in excellent condition, and some of them say in better condition than any other imported.

I herewith forward a sample of the canvas covering and of the hoop binder used. I also inclose copies of weekly circulars issued by the London Cotton Brokers' Association.*

PATRICK A. COLLINS,
Consul-General.

LONDON, *August 8, 1894.*

ITALY.

GENOA.

Following are the comparative dimensions and weights of cotton received at the port of Genoa:

American cotton.—The bales are of three sizes, and each bale has seven iron bands. The dimensions of bales are 5 feet 11 inches by 2 feet 9 inches by 2 feet 2 inches; 5 feet 2 inches by 2 feet 7½ inches by 3 feet 3 inches; 5 feet 4½ inches by 2 feet 4 inches by 2 feet 7½ inches. The weight is from 375 to 595 pounds.

Indian cotton.—An iron band is wound sixteen times around each bale. The dimensions of the bale are 4 feet 5½ inches by 1 foot 4½ inches by 1 foot 8½ inches. The average weight is 408 pounds.

Egyptian cotton.—Each bale has eleven bands. The dimensions of bales are 4 feet 5½ inches by 1 foot 9½ inches by 2 feet 7½ inches. The average weight is 573 pounds.

Peruvian cotton.—Two sizes of bales, each having three iron wires instead of bands. The dimensions of one size of bale are 2 feet 6 inches by 2 feet by 2 feet 8 inches; weight, 106 to 110 pounds. The dimensions of the other size of bale are 3 feet 7½ inches by 1 foot 11½ inches by 3 feet 3 inches; weight, 320 to 353 pounds.

Smyrna cotton.—Three sizes, with four bands to each bale. The dimensions are 3 feet 9½ inches by 2 feet 10 inches by 2 feet 10½ inches; 3 feet 9½ inches by 3 feet 2 inches by 3 feet; 3 feet 10 inches by 2 feet 10 inches by 2 feet 11½ inches. The weight is from 397 to 441 pounds.

With reference to coverings of the bales, I have the statements of Messrs. Staub & Guyer, owners of a large cotton mill at Cornigliano Ligure, about 3 miles from Genoa, and of Mr. H. Kuhn, who, for twenty years, had been a cotton broker in Savannah, Ga., and to-day is engaged in the same business in Genoa. Messrs. Staub & Guyer say regarding the covering on American cotton:

> Strong jute cloth, quite suitable for the purpose. Very often, the bales have to be submitted to several transshipments and stowings, for which reason the bales do not all arrive at destination in good condition. There is also the circumstance that the bales are packed at the place of origin and are then carried to the place of shipment, producing thus the deterioration of covering, the more so because at the time of shipment they have half the compression that they are subsequently submitted to during the shipment by the interested parties.

* Samples and circulars filed in the Department of State.

The bands are good and flexible, with little probability of breaking up. The ends are joined together by small iron keys of various forms. The whole covering corresponds perfectly well to the purpose.

On the same subject, Mr. H. Kuhn says:

Indian and Egyptian bales of cotton reach Genoa generally in a most satisfactory condition, and there is scarcely any band lost, while the American bales arrive in a less favorable condition. The covering of the latter, being less strong, is very often much torn, and very often, also, there are bands missing. On an average, it might be said that about 2 per cent of the original bands are lost.

For covering Indian cotton, light jute cloth is used in long strips of the length of the bale, the number of which varies according to their breadth. They are secured by a band running round sixteen times from one head or end to the other. The heads are sewn longitudinally at the extremities of the strips. The strong compression causes the covering to be all cut along the backs of the bales where the bands are placed, but such cuttings do not appear on the sides of the bale, because the covering is less adherent there.

For Egyptian cotton, the kind of covering is nearly the same as that for Indian cotton, with the difference that it is used in two pieces only, the one under and the other above the bale, which are joined together on the sides by compression. The bands are fastened together by two iron rivets. The heads or ends are sewn just like the Indian bales, and have the same compression.

Peruvian cotton is covered with light jute cloth. As previously stated, there are two kinds of bales, of simple compression, bound by three wire bands, one at each head or end and one in the center. The importation to Italy is very limited.

Smyrna cotton is protected by light, but stronger, jute cloth in two pieces, like the Egyptian, with the difference that the pieces are longer, the extra length being used as covering for heads or ends. The iron bands are fastened by rivets.

As to the condition in which cotton is received, Messrs. Staub & Guyer say:

About one-half of the bales from the United States arrive in good condition; the other half are more or less in bad condition, principally at the ends. A great deal of the contents of the bales, on this account, is loosened and detached. However, all this is picked up and divided proportionately among the different consignees. Indian and Egyptian bales reach Genoa in very good condition, with but single bales broken at the heads. Peruvian bales, if they arrived direct from the place of origin, would, owing to their small size, undoubtedly arrive in perfect condition, but they are usually transshipped from the English markets. Smyrna bales arrive in a satisfactory condition, and require but little repair. This is due to the small size of the bales and the small quantity shipped at the place of origin.

On the subject of compressing, I present Messrs. Staub & Guyer's and Mr. Kuhn's opinions. The former say:

India and Egypt.—If the strong compression does not spoil the cotton's fiber, it certainly does not improve it at the time of working the stuff.

United States and Smyrna.—Their compression is preferred, because it does not cause any alteration to the cotton's fiber and does not present any deterioration at the time of working it.

Peru.—The compression is regular, but the importation is insignificant.

Mr. H. Kuhn says:

The packing and compression of Indian and Egyptian bales are almost perfect, and, consequently, their contents could hardly suffer in any way, while the packing and compression of American bales, being less strong, the contents are more easily exposed to the weather influence, etc. The packing of Indian and Egyptian bales is undoubtedly better than that of American bales.

As to Sicilian cotton, the weight, size, and compression are the same as those of Smyrna cotton, with the only difference that rope bands are substituted for iron bands.

Approximate weights of coverings.

Where from.	Cloth covering.	Iron and rope bands.	Total tare.
	Pounds.	*Pounds.*	*Pounds.*
America	22	10.6	32.6
India	6.6	8.8	15.4
Egypt	6.6	19.4	26
Peru	3.3 to 4.4	1.6 to 2.2	4.9 to 6.6
Smyrna	5.5 to 6.6	6.6 to 7.7	12.1 to 14.3
Sicily	5.5	2.2	7.7

JAMES FLETCHER,
Consul.

GENOA, *August 4, 1894.*

SPAIN.

BARCELONA.

During the many visits I have made to the docks of Barcelona for the purpose of comparing the conditions in which cotton arrives from the various countries exporting to Barcelona, I have never yet seen a single cargo from the United States that did not look damaged. There might be some excuse for careless baling were Barcelona a small commercial city, but as it has a population of nearly 500,000, and contains 3,005,000 spindles, 66,000 looms, and is the fourth of European cities in importance to our cotton exporters, carelessness and negligence in packing, baling, and shipping are serious disadvantages, tending to diminish and corrupt trade and to cut down profits. From a number of first-class firms I have obtained opinions regarding United States cotton, and they may be summarized thus:

One firm (cotton brokers) says:

American cotton arrives in a satisfactory state, if it is not transshipped at other European ports. The torn state of the wrappers and loss of weight are nearly always due to jamming the bales on board. United States cotton, compared with that from other countries, is not at

a disadvantage as regards state of contents, wrappers, or hoops, if the bales are not damaged on board ship by forced stowing, which happens at times, but is not the general rule. The loss of cotton is estimated at one per cent, and is not due either to the state of the wrappers, the hoops, or mode of pressing, but solely to petty thefts on the quay. Cotton imported directly from the United States is preferred, on account of its appearance, to that which comes via Liverpool, Havre, Genoa, etc.

Another firm (cotton spinners) says:

There is always a loss of one per cent on cotton from the United States on account of the bad quality of the wrappers, which always arrive torn.

Another says:

It is the rarest thing to receive bales from the United States intact. The hoops are often broken, and the wrappers are so poor and open in texture that the cotton, which is not very closely pressed, escapes.

Another writes:

It is not an uncommon thing to see a bale broken in two. On others, one or two hoops are missing and the end of the bale looks like a cauliflower. Pilfering from United States bales is almost reduced to a trade—women and boys hovering around them like flies around honey as they lie on the quay. Even if the bale is intact, it is quite possible to extract cotton through the wrapper, the texture of the same being so open.

Another says:

The tare on American bales is 4 per cent after the the hoops are removed. One per cent is allowed for so-called unavoidable loss, and claims are constantly made for short weight, as, with the tare deducted, the weight is usually nearly 2 per cent short. On Smyrna cotton, the tare is 3 kilograms per bale and no allowance is made to shippers for short weight, the consumer only paying the net weight received. The hoops on Egyptian and Indian bales are much closer than on those from the United States. The average distances from center to center being 4½ inches, 3¼ inches, and 8½ inches, respectively, the loss of a hoop or two does not weaken the bale so much. Then the cotton is pressed much more tightly, and the wrappers, though less in weight than those of the United States wrappers, are closer in texture, and, consequently, do not allow the cotton to escape so easily. Fires break out oftener in American bales than in the others, and, owing to the looser texture, more damage is done by water. Although great compression of the bales is to a certain extent a drawback, as it entails more work to open up the cotton at first, yet this is compensated for by the saving in loss and the cleaner state in which the cotton arrives.

Still another spinner states:

I used to go to the quay when cotton arrived for me. I have given up doing so, being disgusted at the condition the bales arrived in—hoops broken, wrappers torn, and the cotton bursting out on all sides, and being stolen almost under one's very eyes. The dust and dirt also work deeper into an American bale than any other.

In short, all, except the brokers, agree that United States cotton does not arrive here in a proper condition, and they do not hesitate to assert that they would buy more American cotton than they do if it were delivered here as it should be. As for the brokers, many of them are satisfied with things just as they are, for they now have many opportunities to claim shortage in weight and to ask for compensations of various kinds for defects.

I believe if American cotton men would press and bale their shipments to Barcelona with due care; if they would ship directly instead of indirectly, with proper stipulations to effectually prevent crowding; and if they would select their representatives here with care, that they could increase their business $1,000,000 per year. The average yearly sale of American cotton here is about $11,000,000. By American, I mean United States cotton; for South American cotton, lately, has not been imported here.

In conclusion, I beg to call especially to the attention of our cotton exporters the following comparisons:

Average dimensions of bales.—United States, 69 inches long by 30 inches wide; Egypt, 49 inches by 16 inches; India, 47 inches by 12 inches; Smyrna, 40 inches by 30 inches; South American, 12 inches square; South American bags, 40 inches long by 12 inches wide.

Average weight of bales.—United States, 473 pounds; Egypt, 737 pounds; India, 396 pounds; Smyrna, 374 pounds; South American bales, 110 pounds; South American bags, 198 pounds.

Wrappers or coverings.—United States, very coarse jute, heavy, but very open; Egypt, fine jute, light and close; India, medium jute; Smyrna, fine jute, light and close; South America, coarse jute or cotton.

Bands or hoops.—United States, seven iron hoops; Egypt, eleven steel hoops; India (are spirally equal), fourteen iron hoops; Smyrna, four iron hoops; South America, willow or roots.

State in which bales arrive.—United States, cover damaged, hoops broken, and contents loose; Egypt, perfect; India, cover fair, hoops and contents perfect; Smyrna, perfect.

HERBERT W. BOWEN,
Consul.

BARCELONA, *July 9, 1894.*

EGYPT.

ALEXANDRIA.

The average dimensions of a steam-pressed bale of Egyptian cotton are: Length, 51 inches; depth, 31 inches; width, 22 inches. These dimensions give a bale of practically 20 cubic feet, or half a ton, as computed by shippers. The weight is about 760 pounds.

The bales are covered with jute canvas and hooped with steel bands. There are eleven hoops to each bale, and they are 8 feet in length, 1¾ inches in width, and of 19 gauge. The tare of canvas and hoops combined amounts to 2½ pounds per bale.

Steel hoops delivered at Alexandria cost about £8 per ton, enough to hoop 140 bales of cotton. The jute covering costs about 12 cents for each bale of cotton.

The cotton arrives at Alexandria either in bags or half-pressed bales. The covering of the bales may be used for the steam-pressed bales for shipment,

but the hoops must be new steel bands. The old hoops of the hydraulic-pressed bales, which are heavier than those made from the steel bands, are returned to the villages in the cotton district for reuse.

For compressing at Alexandria, compound steam and hydraulic presses, giving an average pressure of 500 pounds, are employed. The actual cost of pressing is 12 cents per cantar (98½ pounds), without any margin for profit, it is stated.

FREDERIC C. PENFIELD,
*Agent and Consul-General.**

CAIRO, *November 19, 1894.*

INDIA.

BOMBAY.†

Cotton is sown in June throughout the greater part of India, during the first interval after the commencement of the rains of the southwest monsoon. The cultivation continues, as for centuries past, in the most primitive methods. Fertilizers are not known. Europeans are not interested in the cultivation of cotton. The cost to gather and clean cotton is about as follows:

Presidency.	Quantity per acre.	Cost per acre.
	Pounds.	
Madras	37 to 54	$2.00
Berar	52	$4.00 to 5.00
Bombay	50 to 98	2.50
Northwest Provinces and Oudh	80	7.25
Punjab*	96	2.00 to 8.00

*Land is manured.

Trials have been made with acclimatized American cotton, and the results, I am informed, are encouraging.

The area under cotton cultivation in India is about 14,500,000 acres, and the approximate annual yield is about 2,800,000 bales.

Cotton ginning.—Originally, separation of the fiber from the cotton seed was accomplished by hand labor, using a bowstring and the "churka," a machine with two small rollers, which nipped and pulled the fiber through without being able to seize the seed, which was rejected. Indian cotton bolls, when gathered, contain about two-thirds to three-fourths of their weight of seed, which has, when ginned, about the value of the labor used for separating it. No other machine has been found that will separate the fiber and seed with such little injury to either. It only turns out 12 to 14

*The information incorporated in this report was furnished by the United States consular agent at Alexandria.

†This report was compiled from Government reports, articles taken from the Indian Textile Journal, and personal investigation among mills, presses, and engineers.

pounds of cotton per day, and for the small producer it still stands without a rival.

The saw gin was next introduced from the United States, worked by hand, and, eventually, by power. This machine is still in use in Dharwar, although it injures the cotton to a very considerable extent. The double-acting gin of Macarthy, with various modifications, was next brought forward; but, in spite of the many improvements added, it can be greatly improved. The want of balance of the moving parts and the imperfection of feeding all affect the cotton injuriously.

The special defect which must be avoided in the construction of a gin is the breaking of the fiber in the effort to detach the greatest quantity of it from the seed, by which its germinating powers are destroyed. A small projecting point on the seed is the part from which the germ issues, and if this is broken, the seed is only fit for cattle food or the oil press. As there are great differences in the character of the cotton grown in different countries, no gin has yet been invented that would do the work equally well for the various kinds of cotton.

Messrs. Platt Bros., of Oldham, England, have supplied the largest number of gins to India, and Messrs. Dobson Barslow, of Bolton, England, stand second.

Cotton pressing.—Until the civil war in the United States, cotton was packed in India by means of wooden screw presses and tied up with ropes in bales weighing about 20 pounds per cubic foot. The screws were cut with a hammer and chisel out of the hardest wood available, and the nut was made in halves with the same tools and clamped together. The press was worked by means of a gang of coolies running about a capstan, turning the screw. All this was changed during the war between the North and South, for the American supply of cotton being cut off, England turned to India for the raw material to keep her spindles going. Iron screws were substituted for wood, and numerous varieties of mechanism were tried to expedite the work of baling. In 1875, the power press was introduced, and this settled the fate of the screw press. The early hydraulic presses carried two 9-inch rams, representing a power equal to 142 tons pressure on the bales. In 1876, steel cylinders were introduced, which permitted an increase of pressure, and then iron hoops took the place of rope lashings. Presses could then lift 750 tons, with three 11-inch rams, producing bales with a volume of 10 cubic feet and a density of 39 to 40 pounds per cubic foot. Hodgart's press next appeared—a combination of levers and hydraulic pressure, by means of which the increasing resistance of the bale was met by increasing pressure by means of what are commonly known as "toggle" levers. The press could turn out 12 to 14 bales per hour, and exert a final pressure of 800 tons on the bale. Then, a hydraulic finisher press was introduced, to give an extra squeeze to the bales made in existing presses. Along with this apparatus was a fork of special construction, which conveyed the bale from the first press to the second. This "finisher" permitted the presses that were too weak to meet the

increasing requirements of shippers with regard to density to remain in use. Finishing presses were first made with single rams; then, successively, with two 16-inch rams, two 18-inch rams, and, latterly, two 21-inch rams, equal to a pressure of 2,000 tons. Presses with two 22-inch and even 23-inch rams have been tried, but the full power of these presses tends to cause the fibers to adhere and mat together. A finishing press with two 21-inch rams, exerting a pressure of 2½ to 3 tons per square inch, is considered the limit of power that may be exerted on a bale of Indian cotton without injuring the fiber. Ashcroft invented the revolving boxes (see cuts 1 and 2), which passed under the press as they were filled, and considerably increased the rate of work. When the patent expired, the revolving box was adapted by other makers, notably by Watson in his "Cyclone" press, which is one of the quickest working presses in India.

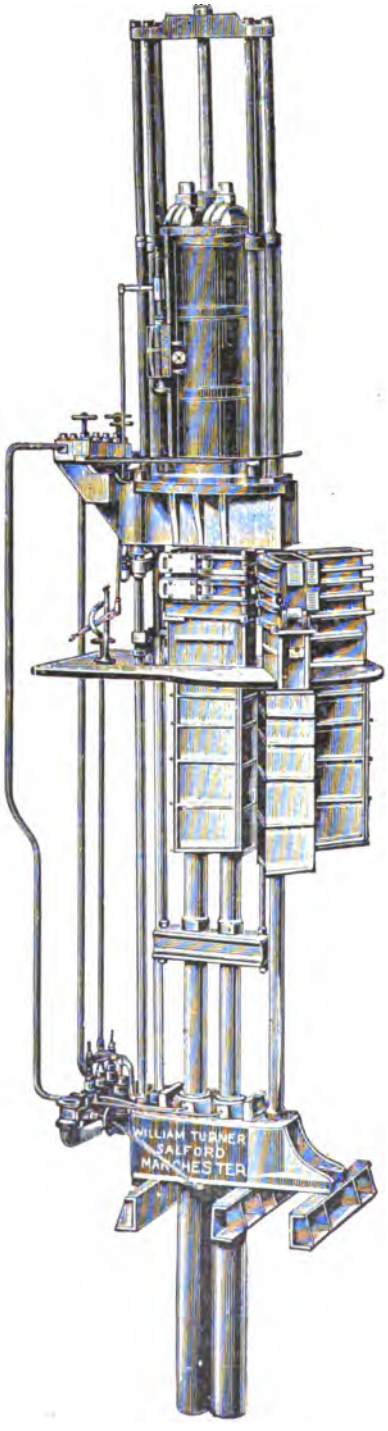
At the present time, an Indian cotton-baling press, to meet the requirements of commerce, must be capable of exerting a final pressure of 2,000 tons on a bale of 400 pounds weight with a bulk of 8½ to 9½ cubic feet. All the cotton-baling presses of India exert pressure on the bale on its smallest side with but one exception, which is Cummins's press, which exerts its pressure on the end of the bale. The Cummins press necessarily has a longer stroke than the other, but the total pressure exerted is much less by the proportion of the end to the side of the bale. With 1,000 tons pressure, 400-pound bales have been reduced to 6½ cubic feet by this machine (measured in Madras harbor), which represents a density of 61 pounds per cubic foot. The Cummins press stands on the ground floor, having no need of an upper story. The boxes are suspended in a water-tight masonry well, and the press heads stand above the surface of the floor.

Nasmyth & Wilson's latest press, the "Octopus," which is a half press and finisher combined, turns out bales weighing 225 pounds and of 8½ cubic feet, with a density of 61.76 pounds per cubic foot. There is a press just put on the market which turns out bales weighing 600 pounds and 9½ cubic feet in volume, with a density of 63.1 pounds per foot.

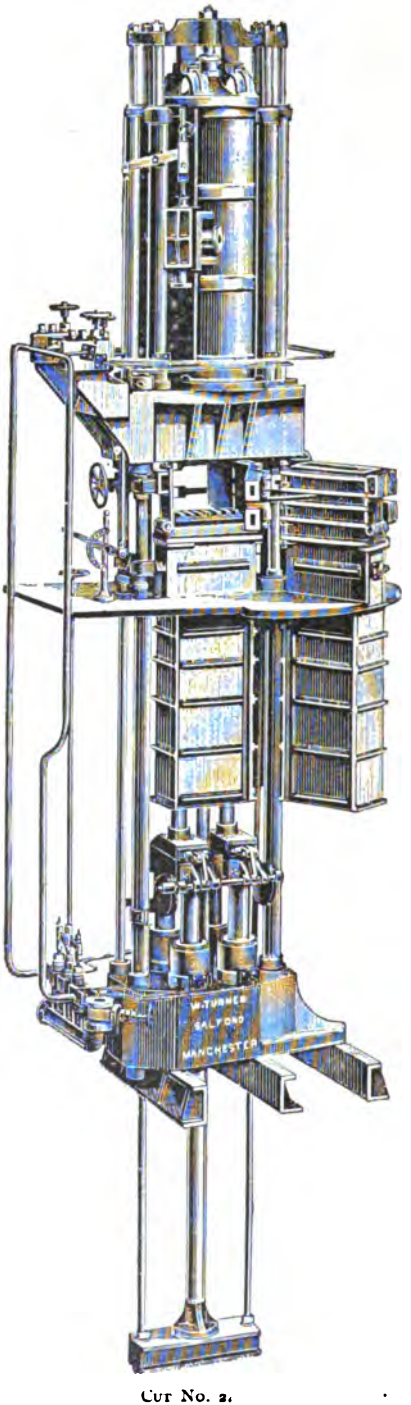
DESCRIPTION OF ILLUSTRATIONS.*

Cut No. 1 illustrates the Ashcroft compound steam and hydraulic press. The primary objects of the press are speed and power, and these are obtained by using steam and hydraulic pressure alternately and combined at the most favorable moments during the compressing of the bale. The first pressure, given when the material to be pressed is loose in the box, is obtained by steam only, the piston rising rapidly the full stroke of the cylinder, and, by means of the lifting rods which connect the two crossheads, drawing up the table on which the material rests. At the same time, the crossheads lift all the hydraulic rams, and water is siphoned into both hydraulic cylinders and pumps. At the completion of the upstroke, the siphon valves are closed, and the pressure valves between the hydraulic cylinders and pumps

* Representing the quickest, and, in my estimation, the best presses used in India.



Cut No. 1.

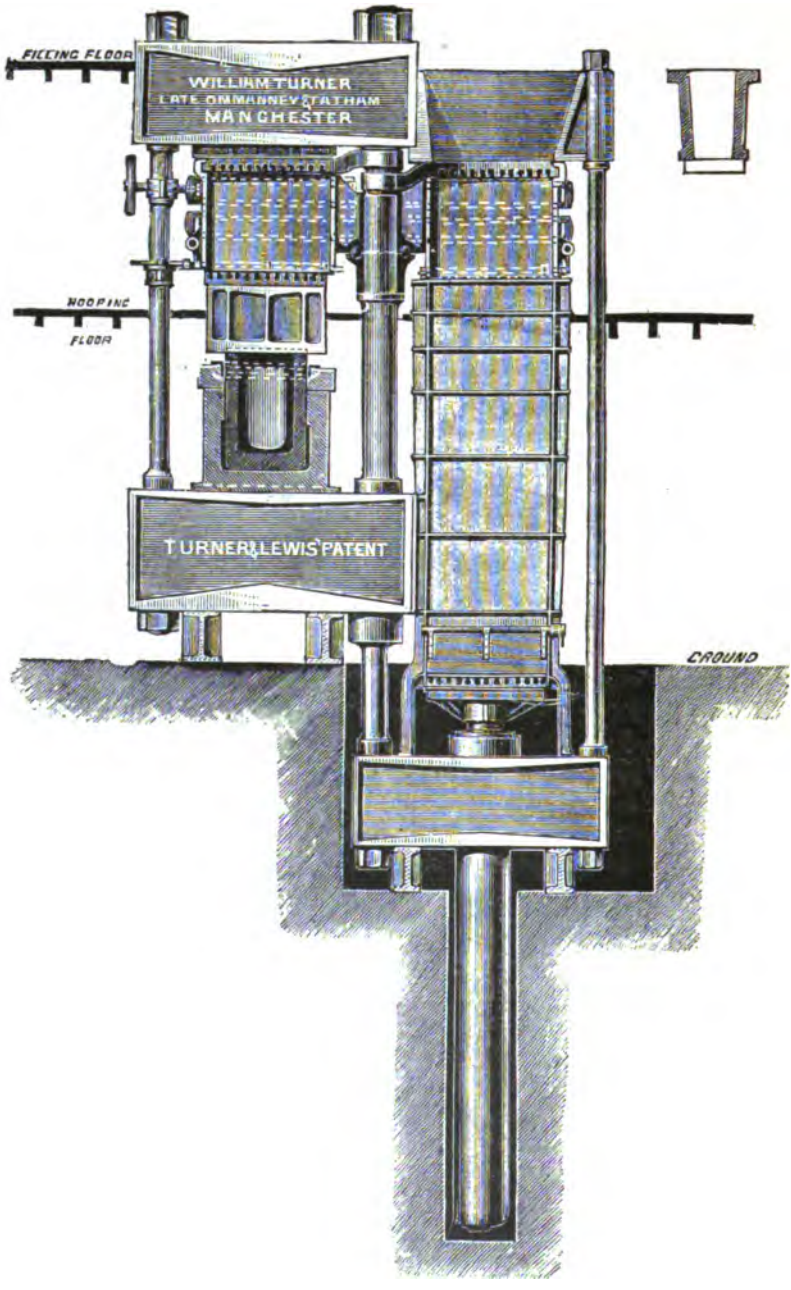


Cut No. 2.

being opened, on the return stroke of the steam piston, the power water is forced into the hydraulic cylinders from all the pumps at once; but as the pressure becomes greater, the larger pumps are successively "knocked off" automatically in pairs and the final pressure is given to the bale by the two smallest pumps only. The bale is thus completely pressed with one up and one down stroke of the steam piston, the operation occupying about seven seconds of time. If the press were arranged with one baling box only, much time would be wasted in waiting for the box to be filled, as it takes much longer to fill the box and band the bale than it does to compress it, and to overcome this loss, the press is fitted with three baling boxes, which revolve around the central column, and two of these boxes can be filled while the third is under the press. So rapid is this combined system, that in Egypt, where many of these presses are at work, a common turnout is 50 to 60 bales of 630 pounds each per hour for each press, and in some cases as many as 75 bales per hour have been made.

Cut No. 2—Turner's press—is an improvement on the Ashcroft press, and is designed especially for the Indian market, where the pressure used is greater than is customary in baling Egyptian cotton. The main details in the working of the press are the same as previously described, the action of the steam piston in lifting the press table and drawing up the pump rams, and the return stroke of the piston bringing the hydraulic pumps into action, being precisely the same in both cases, but the rising steam piston, in place of drawing up hydraulic cylinder rams, raises, instead, two false rams or props. These, when at their full height, are locked by heavy sliding shutter blocks, and the final pressure on the bale is given by four hydraulic cylinders, which have an area equal to two 22-inch cylinders, and which are actuated by the hydraulic pumps in the same manner as described in description of cut No. 1. The central cylinder is fitted with an air piston, so that the return of the follower and the rams may be made almost instantaneously. This press, like the one previously described, is capable of turning out 50 to 60 bales of 630 pounds of cotton per bale per hour, and, although the work of output is so rapid, the actual working parts of the press require only two men, viz, one to work the steam slide valve and to open the box door, and the other to work the valves. This press, also, is made of great strength, with cast-steel hydraulic pumps and cylinders, Bessemer-steel pump rams, cold-blast cast-iron cylinder rams, wrought-iron baling boxes, with all-steel working parts; cast-steel valve blocks, with gun-metal valves, seats, and connections; steel hydraulic tubes, and heavy cast-iron foundation beams.

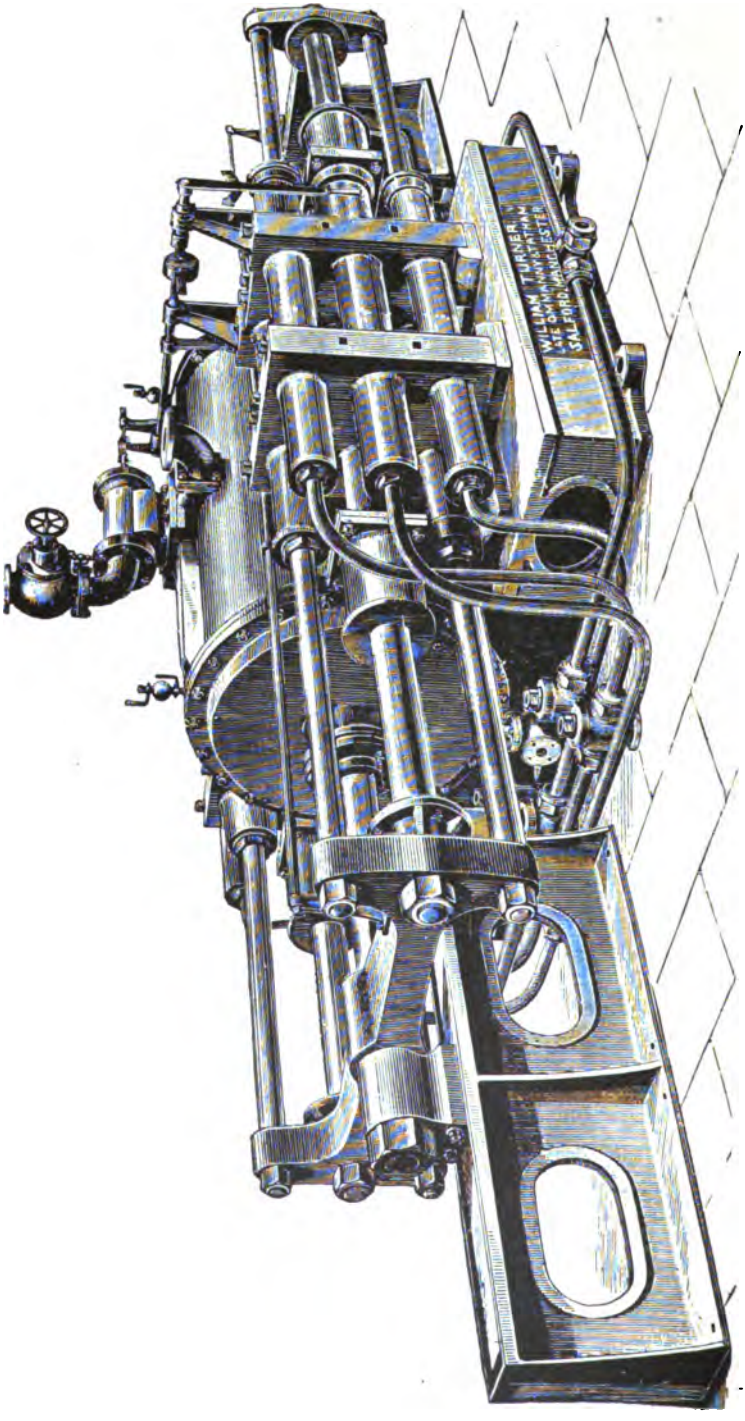
Cut No. 3 is Turner's improved light baling press and finishing press combined. The system of a light first press and a special and more powerful finishing press is very common in India. The press illustrated is made to combine the two, and it will be seen that the various operations of each process are independent of the other. The maker claims for this design a capability of turning out more bales per hour than any system at present in use. If the whole operation of pressing and finishing the bale is done in one


FILLING FLOOR
WILLIAM TURNER
LATE OMMANNEY & TATHAM
MANCHESTER
HOOPING
FLOOR
TURNER & LEWIS' PATENT
GROUND

Cut No. 3.

press with one box, much time is wasted in waiting for the bale to be lashed and the rams run down before the single box can be filled, but in this design any of these operations, being independent of the others, may be carried out simultaneously, thus saving much time. It is made as a double press, with one fixed long box, in which the first pressure is given to the bale, and two revolving top boxes, which transfer the lightly pressed bale from the light press to the finisher, where the final pressure is given. In working, the long box is filled through the top of the press, which is made hollow for the purpose; the false top, with its lashing plate, is then turned into its place, covering the aperture in the press top, and the ram, being rapidly run up to a level with the top revolving box, the material is partly pressed, the bottom lashing plate being held in position by four catches, or the bale may be secured by being loosely lashed. The top box, with the bale, is then revolved until it is under the finishing press, which has a much larger and more powerful cylinder, where the bale is finally pressed to its complete density, and the box doors being now opened, the bale is banded and turned out finished. During these operations, the light press is again being filled, and the material in the box pressed, and by the time the first bale is turned out of the finisher, another lightly pressed bale is ready for the final pressure. This arrangement gives great speed, and it is on this account that the maker bases the claim named above, as no other system of light press and finisher gives the same advantage. The fixed box is of cast iron, and has no working parts except the bottom door, but the top revolving boxes are made entirely of wrought iron and steel plates and bars, and all the working parts are of steel. These boxes revolve on polished steel balls, which run in a steel-faced race attached to the central column of the press. The cylinders are of cast steel, with steel glands and cold-blast cast-iron turned and polished rams. The columns are either of steel or the best hammered scrap iron, and are secured in their places with steel nuts. The tops and bottoms are of cast iron, and the press is provided with a suitable set of girders for building into the foundations. This press is said to turn out 35 bales of cotton of 400 pounds each per hour.

Cut No. 4 illustrates Turner's improved arrangement of direct-acting hydraulic pumps, such as are supplied to India, Egypt, etc., for working cotton, jute, esparto, and other presses. The engine consists of a set of twelve pumps, placed horizontally on a strong cast-iron bed, with the steam-power cylinder in the middle. The steam cylinder is fitted with a slide valve, worked by hand lever; cast-iron piston, with cast-iron rings and Bessemer-steel piston rods, which are coupled directly to the crossheads. The crossheads are of cast steel, and are carried on heavy cast-iron slide bars, with planed faces for the slippers. The pump rams are of steel, turned and polished bright all over, connected to the crossheads by steel nuts, and working in heavy gun-metal glands. The pump bodies are of cast steel, carefully machined, and are erected on strong standards attached to the bedplate. The engine is fitted with siphon, pressure, and return water valves, with either steel or gun-metal bodies, and gun-metal valves and working parts,



Cut No. 4.

the valves being connected to the pumps by the steel hydraulic piping. In working, the pumps are at first worked all together, but as the pressure on the bale increases, the larger pumps are successively "knocked off" in pairs, and the final pressure given to the bale by the smallest pumps only.

Cut No. 5 represents the improved baling hoop-punching machine. This machine is double, and is arranged to punch both ends of the baling hoop at the same time, by which means a considerable saving in time and accuracy in measurement is effected. The standards are of cast iron, strongly made, planed and fitted with face plates for guiding the punching arm, and bored to receive the shafts which carry the wheels. The punching arms are planed all over and slide true on the standards, and are worked by cam motion driven by spur gear. The two ends of the machine are connected by a driving shaft and work together, punching both ends of the hoop at once. The distance between the two sets of punches can be regulated to suit different lengths of hoops by means of the hand wheel, which works a regulating screw and moves that end of the machine backwards and forwards as required. A fly wheel is fitted at each end and the ends of the driving shaft are further supported by cast-iron standards. The machine is also made as a single punching machine, as shown in dotted line in the illustration, to punch one end of the hoop only, and to be worked by hand or power.

Cut No. 6 represents the packing tools used. Fig. 1 is a paddle, to put against the bale to make it solid while riveting; fig. 2, dogs to pull the hoops over the bales; fig. 3, hammer for riveting; fig. 4, clamps, to hold the hoops tight while riveting; fig. 5, punchers, for punching hoops for rivets; fig. 6, anchor, for use when the bale is roped instead of hooped; figs. 7, 8, and 9, wood and iron levers for tightening the dogs when holding the hoops.

Hoops.—The hoops used for baling are made of rolled steel three-fourths of an inch wide, and are sold in Bombay at $1.20 to $1.55 per cwt.

Baling cloth.—The covering of the bales is made from jute gunny bags. Two qualities are used, and prices, per yard, in Bombay are as follows:

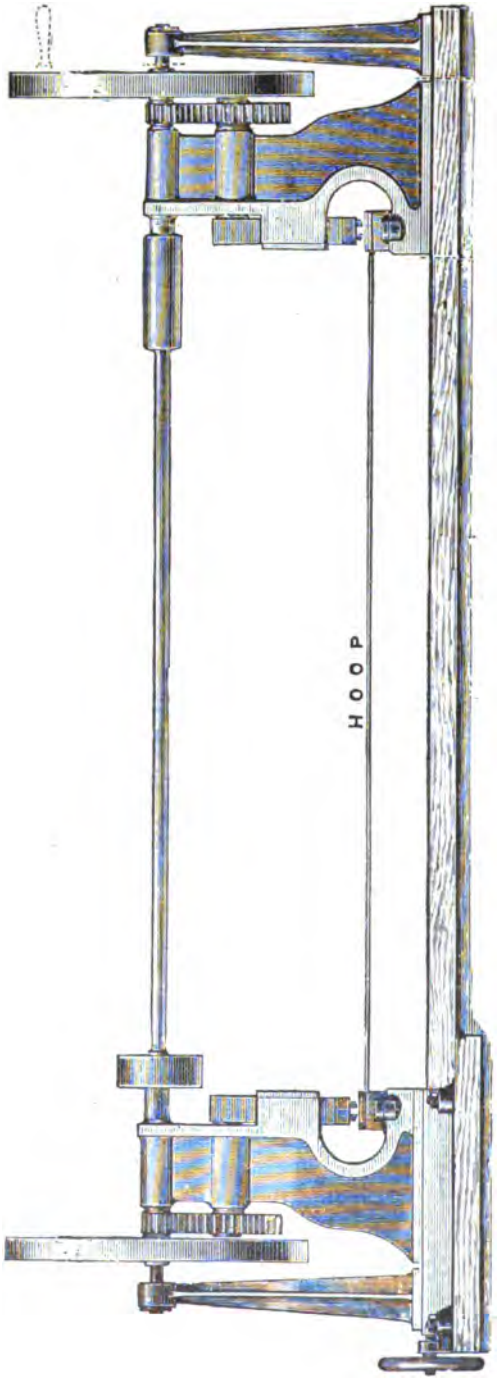
Size (breadth).	First quality (12 ounces per yard).	Second quality (10 ounces per yard).
	Cents.	*Cents.*
40 inches	3.4	2.9 to 3
45 inches	3.7	3.2
50 inches	4.1	3.5

Samples of both qualities of cloth are inclosed.*

Following are comparisons of the various cotton fibers of the world:

Cotton with the longest fiber is the sea-island (American); shortest fiber, Indian; strongest fiber, Indian; coarsest fiber, Indian; softest fiber, American; hardest fiber, Brazilian; finest fiber, sea-island (American).

*Filed in the Department of State.



Cut No. 5.

The mean diameter of the different cotton fibers is: Sea-island (American), one seventeen-hundredth of an inch; Gallini (Egyptian), one fifteen-hundredth of an inch; brown (Egyptian), one thirteen-hundredth of an inch; white (Egyptian), one twelve-hundredth of an inch; American, one twelve-hundredth of an inch; Brazilian, one eleven-hundredth of an inch; Indian, one nine-hundredth of an inch.

The average strengths of the different fibers are: Sea-island, 90 grs.; American, 120 grs.; Brazilian, 120 grs.; Egyptian, 130 grs.; Indian, 140 grs.

Cotton spinning and weaving.—The first cotton mill in India was started on the banks of the Hooghly in 1817, but the industry practically dates from 1851, when the first of a series of mills was started at Broach. The first mill in Bombay was built in 1854. It contained 20,000 mule spindles. The progress of the industry from 1855 to the present time has been very rapid and there are now 141 mills in operation in India, with a total of 3,575,917 spindles, and 28,164 looms, employing about 121,600 hands. Of these, 98 mills are in the island and presidency of Bombay, with a total of 2,499,211 spindles and 21,425 looms, employing 83,970 hands. The chief center of the industry is in the city and suburbs of Bombay, where there are 69 mills working, containing 2,063,608 spindles, 16,664 looms, and employing 67,870 hands.

The type of building used for the mills in India is a plain three-story stone-and-iron structure, about 90 feet wide.

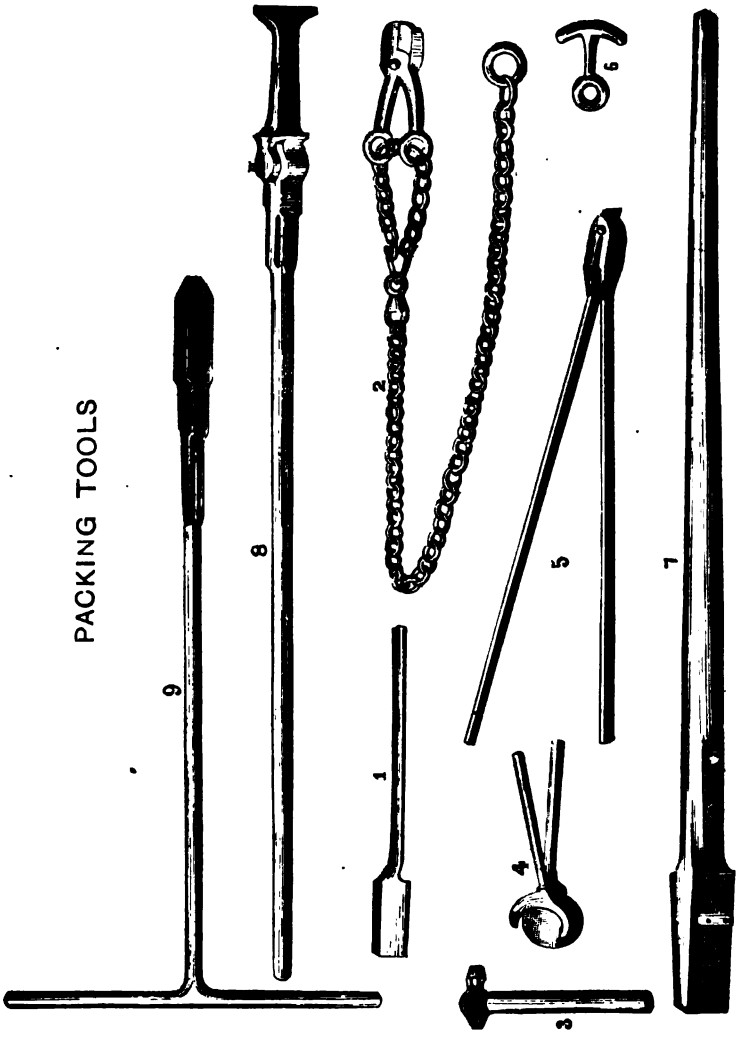
Of the 141 mills in India, 123 are managed by agents of joint-stock companies and 18 are private concerns. Among these agents and owners, 26 are Europeans, 18 Parsees, 64 Hindoos, 7 Mohammedans, and 3 Jews.

The majority of the agents receive 3 pies (about six-tenths of a cent) per pound of yarn turned out, and the remainder receive 10 per cent of the net profits, after allowing for depreciation.

The counts spun are chiefly coarse and medium, ranging from 6s to 30s or 40s, while a few concerns have spun as fine as 80s. Twenty per cent of the production is under 10s, 79 per cent is under 20s (this includes 10s and under), 19½ per cent 20s to 30s, 1½ per cent between 30s and 40s, and one-eighth of 1 per cent over 40s.

Spinning was done on the self-acting mule and on the fly throstle up to about 1884, but the introduction of the American ring system in the Empress mills at Nagpore drew the attention of a few watchful spinners, and some trial frames were ordered for one or two local mills. The results for certain counts and the price they commanded in China far exceeded the expectations of the agents, and within the following five years, several thousand ring spindles were ordered and set working in mills thoughout the city and island of Bombay.

Of the labor employed, 72,000 are males, 25,000 females, 16,000 young persons, and 8,500 children. The hours of labor are from sunrise to sunset, with an interval of thirty minutes for rest at noon. They get, on an average, four holidays a month.



Cut No. 6.

*Operatives in Indian mills.**—Although a good deal has been written of late about the mill operatives of India, their long hours of labor, their low scales of pay, and small capacity of effective work, the stay-at-home Englishman has but a vague idea of the personality of the Indian mill hand. Comparisons with the home article will not help him much, for beyond earning a living by minding the same machines, they have scarcely anything in common. At Bombay, the mills are supplied with labor by coolies who belong to the agricultural class, and are drawn to the town by the attraction of better pay and an easier life than that in the fields under a tropical sun or under equally tropical rains. These people have all an interest more or less in the property cultivated by their families and relatives, and they send money regularly from their earnings to maintain this interest. Their earnings in the field may amount to 2 annas per day, while in a mill a man is worth from 6 to 8 annas (8 to 11 cents). The bond to the land is now becoming weaker. A new generation is growing up, born of mill workers, and gaining at the age of 14 years 7 rupees ($1.52) per month in the mill. This generation knows nothing of field work, and is physically less fit for it than its parents; so the children will grow up as mill hands, without, however, being bound to the work, like the Lancashire operatives, for life. In Ahmedabad and Surat, the collector reports that similar conditions now exist, and that there is already a permanent class of factory workers who do not look forward to returning to agriculture. The Lancashire mill hand, in spite of all his provident society can do for him, lives practically in face of the alternative of "work or starve," while the Indian mill hand frequently and for long periods does neither, and seems little the worse for it. Alms are daily given at mosques, temples, and at hundreds of private houses, and begging is an honored profession that supports many thousands of the people; so a mill hand, if inclined to loaf, may have a fairly easy life, without the least interference of the police. Trades unions are unknown in Indian mills, and are likely to remain so for a long time to come, for the same reason that keeps the lower classes of natives from placing their savings in banks. Their savings are usually invested in jewelry or clothing for the sake of effect. Strikes, therefore, although they may be on a large scale, can never last, as the public charity would be overloaded; but the mill hands already understand the way to boycott a mill or several mills at once, causing serious inconvenience to their owners, while the constitutional aversion of every coolie to routine and punctuality stand constantly in the way of his personal improvement in mill work. Fines of double pay for every day of unauthorized absence do not prevent him from taking a holiday when he likes, and expulsion is treated with the gravity of perfect indifference. A man in Bombay will earn on an average 14 rupees ($3.03) per month, a woman from 7 to 8 rupees ($1.51 to $1.72), and children from 6 to 7 rupees ($1.30 to $1.51). A family of a man, woman, and two children may earn 32 rupees ($6.91) per month. The food of the family will cost 18 rupees ($3.89) and

*Article taken from the Indian Textile Journal.

the rent 3 rupees (65 cents); there is thus a surplus of 11 rupees ($2.38) per month for a family that is disposed to work steadily. Food and lodging thus costs 67 per cent of their income, leaving 33 per cent for other necessaries and luxuries or economies.

Whatever class of work a man gets used to in a mill, he keeps to for the rest of his mill life. He learns just as little as will insure his pay and there improvement ends. He is, of course, illiterate, and all machinery deteriorates more rapidly in his hands than in those of the Lancashire operatives. In Bombay, mill hands are seldom over 40 years of age, and are never seen over 50 years. Custom and social habit have separated male and female labor in Indian mills, and women only work at reeling and winding in a separate department, with a forewoman in charge. They are very independent and prompt to take offense, and if their physical appearance and dress on a holiday may be taken as an index of their condition, they can not be said to suffer from the effects of the poverty or overwork. The domestic life of these women is simplicity itself. A short-sleeved jacket is their made garment, and they may be completely clothed in a saree, which they wind about them with great skill and wear with a grace that is natural to them. Their children, up to the age of 5 or 6, go stark naked, and the furniture in their houses consists of a box or two to hold spare clothes and valuables, a "chorpoy," or rough bed frame, covered with coir yarn netting, and a few cooking utensils of metal or earthenware. They eat very little meat, and feed with their fingers, sitting on the ground.

Judged from the Lancashire standpoint, the Indian mill hand might be a very much more serious adversary if he could bring the energy of the British operative to bear on his work. He has not the power of concentration of the piece worker of colder climates; he is slovenly, and his love of noisy amusement when the fit is on him or a holiday is due overcomes every other consideration. Increase of income, instead of leading him into a better style of living, is generally dissipated in amusements or in vice, so that his absolute necessities remain as simple and are as easily met as before.

If the Indian coolie could develop the steady habits and address of the Chinese or Japanese workmen, it is quite possible that a very large proportion of the Egyptian cotton crops would be spun near Calcutta with the aid of Bengal coal.

Export trade.—The chief export trade has been with China, though it has, of late, fallen off considerably, owing to the disturbance in the rate of exchange.

Total shipments of yarns to China during 1893 were 311,055 bales of 400 pounds each, while in 1892, they amounted to 407,260 bales of 400 pounds each.

The coarser counts of yarn and cloths also find a sale in almost every part of India, and in Aden, Singapore, Rangoon, and Zanzibar.

Total exports of cotton from India to principal ports for the years ending June 30, 1892 and 1893.

Ports.	1893.	1892.	Ports.	1893.	1892.
	Bales.	*Bales.*		*Bales.*	*Bales.*
Hamburg	243,278	219,606	London	27,699	46,116
Antwerp	179,880	143,486	Barcelona	18,760	20,750
Trieste	143,350	165,931	Bremen	11,647	18,895
Genoa	98,750	108,366	Naples	10,952	15,000
Havre	69,706	109,738	Marseilles	8,276	11,219
Venice	65,440	52,217	Japan	128,441	138,158
Liverpool	65,566	105,113	China	8,492	25,569
Odessa	37,614	50,785	Calcutta	49,883	49,547
Dunkirk	66,446	39,892	Bombay	36,177	25,034

Exports of cotton from India to all ports.

From—	July 1 to June 30, 1892 and 1893.			July 1 to June 30, 1891 and 1892.		
	Europe.	Eastern and Indian ports.	Total.	Europe.	Eastern and Indian ports.	Total.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Bombay	815,900	169,322	985,322	904,579	202,105	1,106,684
Karachi	46,194	31,172	77,366	40,394	25,249	65,643
Calcutta	56,285	5,663	61,948	44,904	5,537	50,441
Madras	34,017	1,501	35,518	44,814	160	44,974
Coconada	19,953	.....	19,953	26,500	.....	26,500
Tuticorin	54,566	23,175	77,725	61,241	11,728	72,969
Total	1,026,915	230,817	1,257,732	1,122,432	244,799	1,367,211

Exports and mill consumption of India.

To—	July 1 to June 30—			
	1892–93.	1891–92.	1890–91.	1889–90.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Great Britain	94,710	153,129	249,053	564,711
Continent	932,205	969,303	1,100,268	1,305,424
Total to Europe	1,026,915	1,122,432	1,349,321	1,870,135
China, Japan, and Indian ports	230,817	244,779	79,127	69,477
Total exports	1,257,732	1,367,211	1,428,448	1,939,612
Mill consumption	*1,100,000	1,165,938	1,178,906	1,008,462
Local consumption	*413,000	*413,000	413,000	400,000
Total	2,770,732	2,946,149	3,020,354	3,348,074

* Estimated.

H. J. SOMMER, JR.,
Consul.

BOMBAY, *August 31, 1894.*

CALCUTTA.

This is not a point of great importance for the export of cotton, most of the Indian cotton going from Bombay. The average weight of a bale of cotton is 400 pounds net, and the dimensions are 10 cubic feet, or 5 bales to a ton of 50 cubic feet. Hessian cloth, 45 inches wide and 11 or 12 ounces per yard in weight, is generally used as covering or bagging. Three steel bands are used to each bale. The usual cost varies from 6 to 8 annas (about 8 to 11 cents) per bale, and the cost of Hessian from 7 to 8 annas (about 9½ to 11 cents) per bale. Pressing is done by hydraulic power; pressure, 25 cwts. per square inch. The machinery is made in Manchester. The cost of compressing is 2 rupees 6 annas (about 50 cents) per bale, including all charges.

VAN LEER POLK,
Consul-General.

CALCUTTA, *September 11, 1894.*

KARACHI.

The dimension of cotton bales are 4 feet 2 inches by 1 foot 6 inches by 1 foot 5 inches. The weight of a finished bale is 3½ to 3¾ cwts. gross. Hessian cloth is used for covering and costs 7 annas (about 9½ cents) per bale. Continuous steel hoops are used for bands; they are thirteen-sixteenths and seven-eighths of an inch wide and cost 12 to 14 annas (18 to 21 cents) per bale. The Nasmyth half and finishing presses are almost exclusively used. A power of 1¾ to 2 tons per square inch is used in the half press and 1½ to 1¾ tons per square inch in the finishing press. The half press has three steel rams and the finisher one. Hydraulic power is used. The cost of pressing is about 1 rupee 12 annas to 2 rupees (37 to 42 cents) per bale, according to the quantity of pressing done.

JAMES CURRIE,
Consular Agent.

KARACHI, *August 29, 1894.*

CEYLON.

No cotton is baled in Ceylon, and, at present, there is none here for shipment; accordingly, to obtain the information asked for, I would have to proceed to Tuticorin, India, from whence all cotton shipped from Ceylon comes. Except by doing so, I know of no means by which the desired information can be obtained.

W. MOREY,
Consul.

COLOMBO, *June 28, 1894.*

BRAZIL.

BAHIA.

The weight of cotton bales packed here is from 100 to 150 pounds; dimensions, 18 to 24 inches wide by 40 to 50 inches long. The covering is a loosely woven, light-weight bagging or second-hand sacks. The ties or bands are of a wood vine of native growth, called "sipos." The bagging for one bale costs 8 to 10 cents and ties 1 to 2 cents.

There is no compress here. Hand power is used in pressing, with home-made wood screws and lever.

The methods of cotton culture here are decidedly primitive. The seed is separated by hand usually, but a few farmers have little gins run by hand power. The cotton is brought to market on pack mules, and sells now at 5½ to 7½ cents per pound. About 10,000 bales are raised in this district, not enough to supply the cotton factories in this city.

R. P. McDANIEL,
Consul.

BAHIA, *August 11, 1894.*

PERNAMBUCO.

The bulk of the cotton shipped from Pernambuco is put in hydraulic-pressed bales, measuring, on an average, 2½ bales to 40 cubic feet. The bulk of this cotton is for shipment to Russia.

There are two hydraulic presses in this city which compress 400 pounds of lint cotton into 10 cubic feet. The covering used is Hessian cloth of from 6 to 7½ ounces in weight per yard. A small proportion of the cotton comes from the interior in cotton-cloth covering. These bales from the country are encircled with bands made from creeping vines, which are quite light, flexible, and tough. Some of the cotton from the interior, however, comes to market bound with native rope made from the carnauba palm, and some bands are of wire. The pressing of the cotton in the interior is of the most primitive description, being done by hand by the turning of a large upright wooden screw fixed on either side of the press.

The hydraulic pressing in this port is done by the latest invented machinery. The compress plants located here are manufactured in Liverpool, England, and are strikingly similar to the machinery used for the same purpose in the United States and in Calcutta. The amount of pressure, I am informed by the engineer of one of the hydraulic presses, is 4,000 pounds per square inch. The actual cost of pressing depends largely on the amount of work done in one season, as the interest on capital, salaries of managers, engineers, and cotton inspectors is not per bale, but per annum. Fifty thousand bales pressed by Messrs. Boxwell, Williams & Co., from Septem-

ber, 1893, to March 15, 1894, cost 3.859 milreis (85.3 cents) Brazilian currency, per bale. The charge established for pressing, however, is 6 milreis ($1.33) per bale. Three bands or hoops, each three times round the bale, cost $2.10 in American gold per bale. Import duties in Brazilian currency are, per bale, 2.260 milreis (about 50 cents*). The Hessian cloth used as covering really costs the compressers nothing, as the same covering on the country-pressed bales is used again. If new cloth were used, the cost would be, for cloth and twine per bale, with duty paid, 1.280 milreis (28.3 cents). I regret exceedingly my inability to obtain photographs of the machinery.

JOHN MALCOLM JOHNSTONE,
Consul.

PERNAMBUCO, *July 31, 1894.*

CEARA.

Bags from the interior of the State average 60 kilograms (132.3 pounds) each; bags from places along the railroad line average 100 to 120 kilograms (220.46 to 264.5 pounds) each. Hessian bagging is used, and, in some cases, old bags are sewn together and tied by fiber cords or the branches of trees. The cost for the new bagging is 2 to 3 milreis (44 to 66 cents) per bag. Wooden hand presses made in the country, with a worm screw at each end, are used. All compressing for shipment is done at the expense of the vessel loading it. There are two hydraulic presses here belonging to the agents of the British Steamship Company for compressing two bags together and fixing same with four or six iron bands. This costs from 1½ to 2 milreis (33 to 44 cents) per bag or 3 to 4 milreis (66 to 88 cents)† per bale.

WILLIAM H. MURDOCK,
Consular Agent.

CEARA, *June 30, 1894.*

RIO DE JANEIRO.

There is no cotton baled or compressed at this port. Such business in Brazil is confined, for the most part, to the ports of Bahia, Pernambuco, and Para.

WM. T. TOWNES,
Consul-General.

RIO DE JANEIRO, *September 1, 1894.*

*The consul's estimate makes the milreis, "Brazilian currency," equal to 22.11 cents American. In the statement issued by the United States Treasury giving the valuations of foreign coins, Brazil is given a gold standard, and the milreis is estimated at 54.6 cents.

†The milreis is estimated according to the valuation given by the consul at Pernambuco.

RIO GRANDE DO SUL.

Little or no cotton is grown in Rio Grande do Sul. The cotton goods manufactured in this State are derived from the raw materials grown in the northern States of Brazil. The manufactured goods are packed in close imitation of those received from the United States.

WM. A. PRELLER,
Vice-Consul.

RIO GRANDE DO SUL, *July 30, 1894.*

SANTOS.

There is no cotton exported from this port, but a very little is shipped here from the State of Pernambuco. The bales, I notice, are about 5 feet long, 2½ feet wide, and 1 foot thick, covered on the sides with a very coarse and heavy bagging, similar to that used in the United States. The weight of each bale is as much as an ordinary man can carry on his shoulder. The bands are a kind of vine known here as the "sipos," which resembles that of the grape. I would add that from the best information obtainable, the Watson patent cotton press (of a hydraulic pressure of 4 tons to the square inch), manufactured by Fawcett, Preston & Co., of Liverpool, is the best known here, although no cotton of any consequence is grown in this consular district.

HENRY C. SMITH,
Consul.

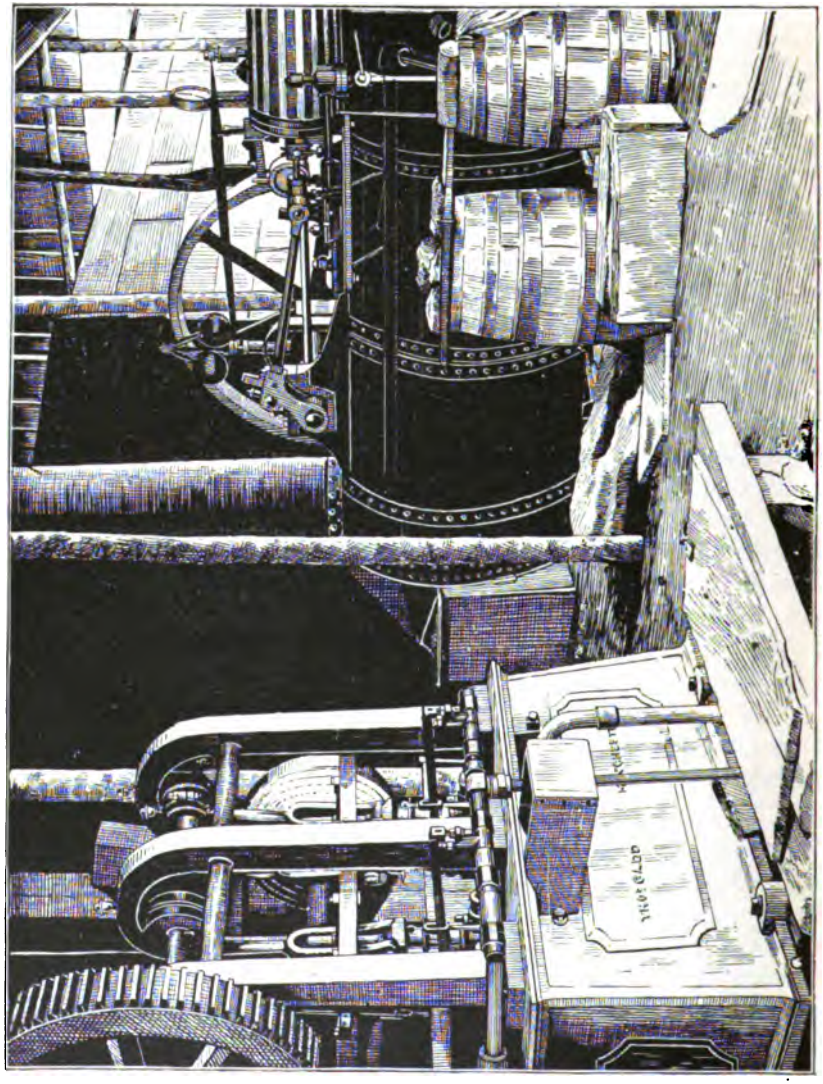
SANTOS, *July 10, 1894.*

COLOMBIA.

BARRANQUILLA.

There are in this city three establishments for cleaning and pressing cotton. One is called El Impulso, situated about three-fourths of a mile below the city, and owned by Senior, De Sola & Co., S. P. de Senior & Co., and the late D. L. Penha, jr.; the second, called El Veranillo, a little more than a mile distant, is the property of Rodriguez, Müller & Co.; the third, La Industria, is located within the city limits, and is owned by Rafael Salzedo.

El Impulso gins and presses by steam. The name of the maker of the engine does not appear. The engineer of this establishment being absent, the power of the engine and the pressure of the press could not be obtained. The gins, four in number, were made by the Eagle Cotton Gin Company, of Bridgewater, Mass. The press was manufactured by the Reynolds Iron Works, of New Orleans, La. The machinery of this establishment is so



PRESS AND ENGINE AT "EL VERANILLO."

SHOWING BALES OF COTTON AT "EL VERANILLO."

closed in that it can not be photographed. The storage room is 64 by 291 feet.

El Veranillo gins by steam, and uses a double hydraulic press. Four 2-inch pumps are used. The engine is 10 horsepower, and was made by John Cameron, and the press by Thomas Gadd, both of Manchester, England. The pressure is 600 pounds to the square inch. The gins, six in number, were manufactured by the Brown Cotton Gin Company, of New London, Conn. The storage room is 25 by 100 feet.

La Industria gins by steam, and presses hydraulically. There are four engines in this establishment, one manufactured by the Washington Iron Works, of Newburg, N. Y., and one by the New York Safety Steam Power Company. The other two do not bear the makers' names. They are, respectively, 6, 12, 14, and 30 horsepower. The hydraulic apparatus was made by James Bulger, of Brooklyn. The pressure (according to Mr. Salzedo) is 3,500 pounds to the square inch. There are two pumps of one-inch cylinders. The press has a cast-iron solid cylinder 11 inches in diameter, raising a bed of 3 by 5 feet. Of the gins, three are Browns, two Eagle, and one Gullet. Besides ginning and pressing cotton, this establishment makes soap, candles, and expresses oil, and has a steam sawmill and a brass and iron foundry attached. The boiler for all this steam apparatus was made by James Reese & Sons, of Pittsburg, Pa. The storage room is 35 by 88 feet.

The dimensions of bales are from 24 to 26 cubic feet; weight, from 450 to 550 pounds. They are substantially the same in all the establishments.

The covering is heavy sacking. The bands are of heavy sheet iron. In El Impulso and El Veranillo, eight bands per bale are used; in La Industria, only four bands are used.

The bales are of ordinary form. (See illustration.)

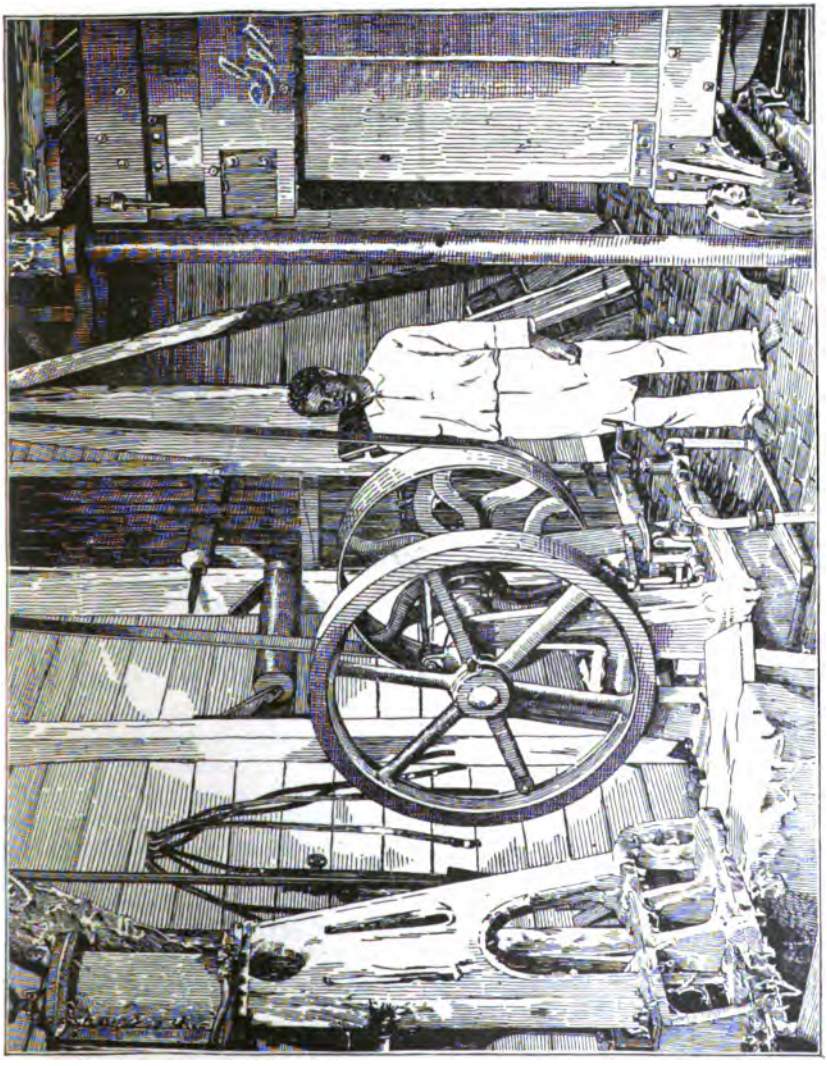
With the present rate of exchange (200 per cent premium), the covering costs $1.50 per bale and the bands about the same. As La Industria uses but four bands, 80 cents per bale is calculated.

The fifth interrogatory in the Department's instructions says:

> Give as full a description as possible of the compress machinery employed, stating the character of the power used and the amount of pressure applied, and where the machinery is made, and give as full an idea as possible of the machinery. Get photographs if possible.

This interrogatory seems to be covered by the second, third, fourth, and fifth paragraphs of this report. Photographs are (1) establishment El Impulso; (2) establishment El Veranillo; (3) press and engine at El Veranillo; (4) showing bales of cotton at El Veranillo; (5) keeper's house at El Veranillo; (6) establishment La Industria; (7) engine and press at La Industria.*

*Of the above photographs, Nos. 3, 4, and 7 are reproduced herewith; the others, showing only the exteriors of the establishments, were deemed to be of no special value to the purposes of the report and have therefore been filed in the Department of State.



ENGINE AND PRESS AT "LA INDUSTRIA."

The charge for compressing is $2 per quintal for cleaning and pressing, which makes about $10 per bale; but neither establishment will give the exact cost, as they say it would not be "businesslike."

At El Veranillo, 30 bales per day are prepared; at El Impulso, 25 bales; and at La Industria, about 20 bales. The combined establishments prepare about 4,000 bales per ordinary season. This season, however, the rains have greatly damaged the crop, and not one-third the usual quantity is expected.

I inclose a sample of cotton just as it came from the gin.*

E. P. PELLET,
Vice and Deputy Consul.

BARRANQUILLA, *June 14, 1894.*

PANAMA.

In answer to Department instruction of May 23, 1894, I beg to inform you that I can not comply with its contents, since cotton is neither baled nor shipped at this place.

VICTOR VIFQUAIN,
Consul-General.

PANAMA, *June 11, 1894.*

NEW COVERING FOR AMERICAN COTTON.

The New York Journal of Commerce, of August 25, 1894, announced that the Cotton Exchange of New York had officially decided that the use of sugar-bag cloth in covering cotton was not contrary to its rules. The Journal of Commerce quoted the president of the exchange as saying that—

> Letters of protest have been received from a number of Eastern cotton spinners protesting against the use of sugar-bag cloth; but I know nothing of the motives that prompted this move, and presumed they were entirely disinterested. On the other hand, the board received a number of communications from farmers and cotton growers asking whether it discriminated against the use of sugar bagging and intimating a preference for the latter. It was in answer to these applications pro and con that we passed our resolution of the 20th and issued it in the form of a letter to all our patrons. We desire to make no discrimination whatever, but to leave them to their own election in the matter. Only when there is a serious defect in any particular sort of bagging would the board care to interfere. For example, last May it was constrained to give notice that pine straw bagging was objectionable, inasmuch as it stained and, therefore, deteriorated the cotton covered by it in the event of its becoming damp or wet. This was in answer to numerous bitter protests that came to us, especially from European customers, which made immediate action imperative.

The article continues:

"To what do you attribute this preference for sugar bagging?"

"Well, it is cheaper, in the first place; and, in the second place, being more tightly woven, is said to protect the cotton better than jute."

* Filed in the Department of State.

Mr. Walter T. Miller, secretary of the exchange, was in substantial accord with the president. "Sugar bagging," he explained, "can be obtained by the cotton dealers either at second or first hands. In either event it is cheaper than jute. Second hand, it may be as much as 3 cents a yard cheaper, which would be about 18 cents a bale. You see that is a consideration. Bagging that has been actually used to ship sugar in is passed through a steam process of cleaning and may readily be utilized for covering bales of cotton."

* * * * * * *

A pioneer trader in cotton, who has been in the business for twenty-five years, assured the reporter that the more tightly woven material was preferred by the planters of the South, not only because it was cheaper, but because it protected the cotton from dust and ashes, and, also, to a moderate degree, from the cinders which occasionally fall upon bales of cotton in cars or when piled up at the station and set fire to them.

NEW BALING SYSTEMS.

In the Manufacturers' Record, of Baltimore, Md., of March 1, 1895, a description was given of the Bessonette system of baling cotton in use at Waco, Tex. The Record says:

The new machine for compressing cotton consists in the winding up of raw cotton in one long lap, which makes a bale, or rather roll, of cotton of great density, almost as solid as a log of wood, but in such a way that the fiber is in no wise injured. This compress, or rather this system, is very simple and inexpensive. It can be attached at a small cost to an ordinary country gin. As the cotton comes from the gin it passes between heavy rollers and is wound on a cylinder, making a bale of uniform weight, which looks exactly like the rolls of paper used on modern printing presses. The machinery is set to act automatically when the limit of weight of the bale is reached, and then a good covering of stout cotton cloth is wound around the bale, also covering the ends. In this condition it is almost impossible for the cotton to be injured either by mud, water, or fire. The Waco plant consists of four stands of eighty-saw gins to begin with. From these the cotton, on coming out, is blown into a condenser and thence fed in a lap, or "bat," on a small iron pipe which serves as a bobbin or spool (all the dirt and dust dropping out between the condenser and the spool), the spool being kept revolving between two iron cylinders, which may be regulated to any desired pressure, until a bale as heavy as may be required is produced. While the "bat" is being rolled on or wound up the air is excluded behind the line of contact, thus rendering the cylindrical bale practically noncombustible. In the old bale the air is not entirely excluded, but with the dust and dirt is compressed so as to break the fibers and make the bale begin to swell the moment the enormous pressure begins to ease up, but the new bale never budges from its first estate.

By this system, there is a saving in handling, in labor, in bagging, and in ties, as no ties whatever are used. It also does away entirely with the present compressing system, thus saving on this about 50 cents a bale, and saving probably even more in waste, dirt, and grease, due to inadequate covering of the old bale. There is also a large saving in insurance and freight, and a careful calculation shows that the aggregate saving by the Bessonette system ought to be from $3 to $5 a bale, or, say, from $30,000,000 to $40,000,000 a year. This saving ought to be almost wholly in the interest of the planter, and it is to be hoped that if the Bessonette system is generally introduced, as it doubtless will be, the planter will get the benefit of this enormous difference.

Moreover, the cost of a plant is so small that it can be established in connection with any country gin of sufficient capacity to handle 2,000 or 3,000 bales of cotton.

In its issue of March 15, 1895, the Manufacturers' Record states that since the publication of March 1—

Mr. Edward Atkinson, in an elaborate interview on cotton, cotton ginning, compressing, and manufacturing, published in the Boston Herald, refers to this system, and also states that already two rivals on practically the same lines as the Bessonette have appeared. Mr. Atkinson, in reply to a question as to what improvements are in prospect in baling, said:

"Mainly in substituting a method of baling which will be less wasteful, free from fires, and subject to a lessening charge for freight, either by rail or ocean. A cylindrical bale, made on a calendar press, known as the Bessonette bale, has been developed in Texas. It possesses very great merits, and were it not for the inertia to be overcome, might be very rapidly adopted. Already two rivals on practically the same lines have appeared. The present bale of cotton is made on the plantations in the first instance, under screw or lever presses, by which it is very slightly pressed. In that condition it sheds water, the cotton being filled with air, so that even exposure to rain and wet does not injure it materially. Before shipment it goes to the compress, in which it is subjected to an enormous pressure—probably to a density of 50 or 60 pounds to the cubic foot—which would make it heavier than hard wood, and it is there held by iron bands.

"In this process the air in the cotton is also compressed. When the bale is taken from the compress the air reacts; the bale swells between the bands and assumes a density of about 23 to 25 pounds to the cubic foot. It is then cut and slashed in taking samples, and rolled in the mud. Singularly, it is readily absorbent of water, grease, and oil, and it is abused in every possible way. In this ragged and dilapidated condition, it is liable to absorb cotton-seed oil, generating spontaneous combustion, which, in my judgment, is the chief cause of the fires on cotton ships, the bales of cotton being very liable to be carried in the same cars or boats in which cotton-seed oil may have leaked. It ignites from the least spark, and when once ignited the fire finds air enough in the compressed bale to burrow for weeks. Cotton in such a bale is never safe after it is once exposed to fire.

"The cylindrical bale, however, is made in a different way. The cotton is taken directly from the gin in a lap and is rolled upon an iron pipe, afterward withdrawn. The first layers are put on with very light pressure in order to form a cushion. As the bale increases in size the pressure is increased. The air is squeezed out in the process, to the end that when the bale reaches its full diameter it may be of a density of 40 or 50 pounds to the cubic foot. And yet it will never have been exposed to the extreme compression of the customary big compress. There is no reaction. It is covered at the ends with oilcloth to prevent moisture or grease from being absorbed, while it is wound on the outside with narrow cotton drilling, previously treated by a new and very cheap process which makes the drilling unignitable and spark proof. It requires no bands and no ropes, and although in the form of a cylinder, yet when packed into a car or vessel it is so much more dense than the ordinary bale as to require two-thirds the space for the same weight of cotton. If the outer covering be removed, the outer layer may be ignited, but the fire goes out; it does not penetrate. There is no air in the bale sufficient to maintain combustion. This bale can only be burned by surrounding it with kindlings. It is like a round log of wood, as difficult to burn as if it were actually wood, which it practically is. It is cellulose tissue, free from albumenoids or resins."

EXTRACTS FROM PREVIOUS REPORTS.

In completion of the foregoing series, the following extracts are given from reports printed in CONSULAR REPORTS No. 160 (January, 1894), "Packing Goods for Export."

Antwerp—Consul Johnson, p. 117:

Some cotton comes from the United States to this district. It is packed in the usual way—hemp bagging bound with iron ties and the whole compressed. The method is satisfactory.

Frankfort—Consul-General Mason, p. 143:

A somewhat thorough consultation with the firms in Frankfort most directly interested in this subject has led to the conclusion that there is now comparatively little complaint in respect to American packing with the exceptions to be mentioned: American cotton is, as hitherto, the worst packed of all that comes to this part of Germany. The bales are large and heavy, and are generally bound with so few hoops that there is a space of from 7 to 10 inches between the ties exposed to the hooks of stevedores and to other perils. It is generally easy to pick out the American bales from any pile of cotton by their torn and bedraggled appearance.

Kehl—Consul Drake, p. 147:

American cotton is extensively used by the manufacturers of Alsace. It is received at Bremen and thence shipped by rail to the factories. It is weighed at Bremen, where damages, if there should be any, are appraised. It is received here very often in bad condition.

Plauen—Commercial Agent Peters, p. 153:

Complaint is made regarding the coverings of the bales and the packing of cotton, the coverings being torn in many cases and large quantities of the cotton hanging out from the various slits in the covering. This is not the condition of the Indian cotton, which arrives in neat and compact bales.

St. Petersburg—Consul-General Crawford, p. 173:

In the case of raw cotton, the complaint is general that the bales arrive in very bad shape. In many instances the iron hoops are entirely broken and the covering worn out, thus necessitating much extra trouble and entailing considerable loss. In this particular, American cotton bales are compared very unfavorably with the Egyptian, which invariably arrive in excellent condition and perfectly clean. The Egyptian bales are only about half the size of the American, and are wrapped in heavy linen covers and securely bound with iron hoops. The number of hoops on a bale of Egyptian cotton is greater than that on an American bale, notwithstanding the difference in size. The Egyptian cotton has equally rough sea voyage and handling as the American

Hiogo—Consul Smithers, p. 230:

The principal American goods imported at Hiogo are kerosene oil, raw cotton, groceries (including flour, which is put up in cotton-cloth bags), and some heavy machinery. The importers make no complaint in regard to the mode of packing any of the above-mentioned articles except raw cotton, which they say leaves much to be desired in many respects.

(1) The bales are badly made up, being hooped carelessly and unevenly and only partly covered by a common sort of bagging, which allows the cotton to escape and dirt to penetrate.

(2) The tare varies considerably, which is clearly a great disadvantage to buyers (since it is the custom in New York to sell upon gross weights) and an inconvenience leading to disputes at this end between importers and their native customers.

(3) Sometimes the bales are found to have been packed with very inferior cotton mixed with good.

The imports of American raw cotton at this port for the calendar year 1892 amounted in value to $768,843.50 in gold; and the demand, it is confidently believed, would be much

greater if the bales were prepared and packed in the same manner as those coming from India or Egypt. During last year a Japanese firm, through a foreign house here, tried the experiment of having a consignment of American cotton resorted, pressed, and baled in Liverpool. The bales contained 700 pounds net and measured 27 cubic feet. They were landed in good condition, and it was found that the extra hydraulic pressure applied in Liverpool did not injure the staple in the least. But the cost of repacking reached $3 per bale and put a stop to it. I inclose sketches of the American, Indian, and Peruvian bales as landed at this port. That of the American shows the condition of worst shipment, with all the hoops off except two. I also inclose photographs of the American and Indian bales, with all the hoops complete. The latter is more compactly baled, the loss from pilfering being thereby reduced to a minimum, and the canvas is much finer and stronger, thereby preventing the penetration of dust and dirt.

FIRES IN AMERICAN COTTON.

A press dispatch of April 2, from New York, says:

The Marine Journal has compiled a record of fires in American cotton on shipboard during the season just closed, which extends from October 23 last to March 28. This record shows that forty-five such conflagrations have taken place, as contrasted with only eight of any note in the previous season. The Marine Journal says:

"It is impossible to estimate the actual loss that has occurred through these fires on board ship. In only a limited number of cases has the statement of loss been even approximated in the reports available for compilation. Not only the actual damage to cargoes and vessels by fire and water must be included in making up an aggregate statement of such loss, however, but also the delay and detention to the ship. * * * It is probable, therefore, that this season's losses through fires in cargo and of American cotton will largely exceed $1,000,000. By contrast with Egyptian and Indian cotton, this loss is beyond all comparison, for such a thing as fire in Egyptian and Indian cotton cargoes is practically unknown.

"The reason ascribed by all experts for this state of affairs is, as the Marine Journal has repeatedly shown, because the American cotton is loosely baled and carelessly covered and handled, whereas the cotton of the other countries referred to is baled so tightly that it becomes practically as impervious to combustion as a log of wood."

MOVEMENT FOR IMPROVED BAGGING.

The New York Journal of Commerce, of April 15, says:

The New Orleans Cotton Exchange has issued a circular letter containing suggestions for reforms in preparing cotton for market. The text of the circular follows:

"In view of the numerous complaints during the current season of insufficient covering of American cotton and the inferior quality of bagging used, which have led to much loss and damage to cotton in transit from the plantations to the mills, and the fact that such loss must have fallen upon the growers of cotton, the New Orleans Cotton Exchange joins heartily in any and all efforts looking to much-needed improvements.

"In relation to the quality of bagging, the experience of the current season demonstrates the absolute necessity for material of at least 2 to 2½ pounds per yard, closely woven and calendered to a sufficient degree to allow clear and distinct marking.

"It is desired to impress upon the farmers and shippers of cotton from the interior the absolute necessity for compliance with this suggestion and the inevitable fact that, if it is not

heeded, allowances for loss in weight and extra expense incurred in transportation must lead to a serious curtailment of profits, if not positive losses.

"To bagging manufacturers, we say that if they continue to place upon the market the flimsy material furnished during the past few seasons, they are likely to have much of their stock thrown back on their hands.

"The reduction of the weight of bands has also been the cause of serious complaints, and the attention of tie manufacturers is directed to the importance of furnishing steel ties and buckles out of the best material and not lighter than 45 pounds per bundle of thirty ties, of 11 to 11½ feet in length.

"As asserted by the Galveston Cotton Exchange, we are convinced that the use of ties riveted together by many of the interior compresses on their premises is largely responsible for the bursting of bands in transit. This, and the use of second-hand ties, should be discouraged, as they undoubtedly lead to much loss and extra expense.

"This exchange is of the opinion that if ginners would adopt a uniform box for baling cotton, as recommended by the recent maritime convention held in New Orleans, of, say, about 28 inches in width and 58 inches in length, they would reap important advantages in the way of freight charges.

"The low price of cotton calls imperatively for the improvements above suggested, and we earnestly hope that all persons interested in the preparation and baling of cotton for market will take them under serious consideration. We are certain that if they are carried out (and the cost of compliance will be little or nothing compared to the advantages to be derived) a long step will be made in the direction of offsetting some of the most serious drawbacks which affect our great staple."

In its issue of April 17, the Journal of Commerce adds:

The action recently taken by the Southern cotton exchanges urging ginners to adopt a uniform box for baling cotton, and also urging upon growers the use of stronger covering for their product, has been freely discussed by members of the New York Cotton Exchange, but the exchange itself has taken no action. Appended will be found interviews with prominent members of the exchange:

Mr. George Brennecke replied:

"There is but one expression among cotton brokers in this market regarding the packing, bagging, and shipment of cotton. America is the laughing stock of the world in this respect, for there is not a country, no matter how poor it may be, that does not ship its cotton crop in better shape than we do. There is only one way to get around the matter, and that is to have the underwriters, both fire and marine, to come to an understanding and refuse to write policies for cotton unless it is in proper shape and well protected.

"The New Orleans Cotton Exchange has passed several resolutions in an effort to have growers and pressers use more care in the shipment and baling of cotton, but I don't think they will have effect.

"So far as we are concerned, we are helpless. We buy our cotton from so many points that it is impossible for us to do anything in the matter. This talk about spontaneous combustion is another phase of the subject which has been given prominence of late, but the arguments on that point have been absurd. In my opinion, the fires on ocean steamers are due to the carelessness of longshoremen and the lighterage people. If any man would observe the scanty pieces of tarpaulin which are used to cover cotton, he would understand why so many cotton fires occur. Take a lighter loaded with cotton and poorly protected; what is to prevent a spark from the smokestack of the tug in charge of it lighting on a bale of cotton? The spark does not ignite and blaze up immediately, but eats its way into the bale, and statistics show that cotton fires generally occur when a vessel has been out of port for five or six days. That is about the length of time it takes for a spark to eat its way through a bale of cotton.

"The bagging which is used in baling cotton is of an inferior quality. A number of growers buy their bagging in Lancashire, because it is a few cents cheaper. It is rotten and no good at all. Another evil which should be corrected is the reselling of bagging. It is known that some bags have been used four times. There is a regular market for them. The mills sell the old bagging and a considerable quantity is imported. When a piece of bagging is used for the fourth time, the cotton might as well have been left uncovered, because it looks more like a bale of rags than a package of cotton when it reaches European markets.

"The system at present is vicious; in fact, it is an outrage to force us to handle such stock. Perhaps if each buyer would refuse to accept such packages they might be more careful in packing it, but our only hope is based on the insurance companies refusing to take risks on cotton as it is baled to-day."

Mr. Alfred B. Shepperson, said:

"There is no denying the fact that cotton is handled barbarously in this country, as compared with other countries, but there are good reasons which can be advanced to controvert the growing opinion that planters are willfully careless in preparing their crop for market. It also is true that cotton grown in other countries is baled with better bagging and in form, but other countries have natural resources that this country does not afford the planter. The East Indian bale weighs 400 pounds, and a better package can be put up at that weight than a 500-pound bale can be in this country. The Peruvian bale only weighs 180 pounds, while that of Egypt weighs 750 pounds. The latter country has always baled cotton in tiptop shape, because it is grown for export only. There is not a cotton mill in all Egypt, and the crops are controlled by British exporters for British markets, and they can dictate to the pressers just how the bales must be put up and what class of bagging shall be used. Cotton-growing countries generally have no domestic markets; therefore, the cotton is not handled or disturbed as it is here. When the planter gathers his crop in this country he gins it and puts it up in round bales. His press is not powerful enough to bale it for export. If a domestic market buys the cotton it makes little difference how it is baled, but if it is to be exported two cylindrical bales are compressed into a commercial bale, and it can be readily seen that the second handling of the cotton does not make as solid a package as if it were all done at the start. But aside from that, the question of bagging is second in importance to the cotton itself. You can not find any stronger or more serviceable covering than jute bagging, but compare the price of the covering with the price paid by East Indian and Egyptian planters. The former pays next to nothing for his bagging, because it is a natural product. Take labor, too; the other cotton-producing countries can not compare with us in the matter of wages, and, taking everything into consideration, no process is as expensive as that used in this country.

"The recent agitation on the cotton exchanges about cotton bagging has, I think, made some improvement, but all the planter has to look out for is to deliver his cotton in merchantable order to some local shipper. His responsibility ceases then. Bringing the matter down to the final buyer, we find that all exchanges have laws governing the receipt of cotton, as to how it shall be baled, the number of ties and the condition of bagging, and if the bales do not come up to requirements the broker can refuse to accept them because they are unmerchantable.

"The new system of baling cotton in cylindrical bales does not meet with favor among mill men. It is true that insurance men have indorsed the system, because it would be almost impossible for fire to get into one of those bales. I have talked with a number of mill men about the cylindrical bale, but failed to find one that was in favor of it. They say it practically excludes fire, but the cotton is pressed so compactly that it takes a great amount of time and labor to get it open and ready for use.

"This talk about using second-hand bagging is all absurd. There has been and always will be a market for good, whole, clean bags, and the same with iron ties. If a mill superintendent is careful and saves both the bagging and ties, he saves a good portion of the cost of freight. I don't see that there can be any objection to having bags used twice or three times if they

hold the cotton. The bagging used weighs about 2½ pounds to the yard, and if handled carefully lasts a long time. The enormous crop must also be considered. It has to be rushed through in a hurry, and there is no time to look after the little niceties that other people can point out. I hope for an improvement, and I think that an effort in the right direction will bring it about."

MANUFACTURE OF TIN PLATE ABROAD.

The following reports upon the manufacture of tin plate in European countries were made in response to instructions from the Department of State, in which it is said:

A firm of consulting engineers in Pittsburg, Pa., have requested the Department to secure, through your good offices, a report upon the methods used in the manufacture of sheet iron and steel in your district. In this letter of request they say that "the progress of the tin-plate industry in the United States has been very much held back by the cost of producing the sheets; that the bulk of the tin plates produced in the United States is made from sheets exported from Wales, and simply coated with tin here."

The following interrogatories indicate the information desired:

(1) State whether sheets are of iron or steel.
(2) Purpose to which sheets are put.
(3) Size of billet used, and cost of same.
(4) How many rollings.
(5) Kind of mills used to do rolling.
(6) Number of men at each mill, or at each stage of process, and wages paid.
(7) Special method used in cleaning and surfacing sheets.

In compliance with the foregoing request, you are instructed to make the necessary investigation and report thereupon, with a view to publishing the information in the CONSULAR REPORTS.

AUSTRIA.

A fine quality of tin plate is manufactured in Austria, and, as it is produced by quite a different process from the one used for the tin plate exported from England to the United States, the following detailed description is given of its manufacture:

The crude iron used in the manufacture of the iron plates consists of either white iron or white iron mixed with gray. White iron is better than gray, and is obtained by heating the gray in a large furnace with a powerful blast, the iron being melted and then cooled suddenly. This process is essential when the iron contains a large amount of silicum or sulphur or where the iron becomes too easily fluid.

In this process, either open or puddling ovens are used. The lumps of ore, which are soon covered in these ovens with a layer of oxide, are turned frequently and stirred with iron poles. The metal becomes thicker, and, finally, becomes a cohesive lump, technically called loop. The carbon contained in the iron escapes as carbonic oxide, the silicon is transformed into

silica and unites with the oxide of iron to make the slag; the sulphur and carbon are also oxidized.

The loops weigh from 100 to 1,200 kilograms (220.46 to 2,645½ pounds), according to the size and thickness of the plates which are to be made from them, and their price, which is dependent upon the weight and quality of the metal, varies from $2.70 to $3.70 per 100 kilograms (220.46 pounds).

The loop is lifted out of the oven by means of tongs, and, by means of steam or water power, hammered into cubes. The object of this forging is to eliminate what still remains of the slag.

There are two well-known processes of preparing iron for tin-plate purposes—(1) the puddling and (2) the open oven, or English process. The treatment in the puddling ovens lasts from one to one and one-fourth hours, when an oven is charged with from 225 to 250 kilograms (496 to 551 pounds) of ore, but this depends largely on the oven and the quality of the ore. One oven can be charged six to ten times in twelve hours, and produces from 1,200 to 2,400 kilograms (2,645½ to 5,291 pounds) of loop iron. An English refinery fire produces in twelve hours only about 1,000 to 1,100 kilograms (2,204 to 2,425 pounds) of loop iron, but the quality of the iron is superior to that produced by the puddling process. In this last process, one can generally count upon 10 to 15 per cent waste for 5 cubic feet of charcoal.

By the Bessemer, the Thomas, and the Martin oven processes great improvements have been made in the production of tin-plate iron. The fused iron obtained by these processes can be rolled very easily and produces better and more regular tin plates than was the case by the old method. The iron produced by the Martin process is particularly adapted to the manufacture of the finer qualities of tin plate, as it has all the advantages of iron refined in hearths without certain of its disadvantages. This system, which is in very general use and has been perfected to a high degree, is preferred by manufacturers, as from 85 to 90 per cent of iron, steel, or tin-plate waste can be used, while in the Bessemer process, it is only possible to use crude iron.

The Martin oven can be charged three times with 5,000 kilograms (11,023 pounds) of metal in twenty-four hours, the charges consisting of from 10 to 15 per cent of crude iron, 60 to 70 per cent of iron and steel waste, and 15 to 20 per cent of iron-plate waste. The Martin fused iron is better than the fused iron produced by the Bessemer system, as the latter is too similar to steel and too brittle for purposes of enameling or tinning.

The cubic loops are rolled into bars of about 25 millimeters (0.984 inch) thick and 500 millimeters (19.69 inches) long; then, made directly into plates for the cheaper, inferior qualities, or piled to the number of five to seven on top of one another in order to produce the finer ones. In manufacturing the finer qualities, ten to fifteen piles of five to seven plates are placed in a welding oven and from two to four in a hollow furnace. After having been heated sufficiently to be welded, they are beaten by a powerful hammer, then reheated to the welding point, and rolled into plates or bars.

The iron produced by piling the bars on top of one another is much purer, more pliable, and has a smoother surface than when the iron plate is made from welded loops.

The plates or bars should be free from slag and have a smooth surface and sides. The iron plates should have the same shape that the tin plates are to be given. It is, therefore, necessary that the piles of welded bars be of the right width and uniformly heated when they reach the caliber mill.

The caliber mill reduces the bars in from five to seven operations from 150 millimeters (5.9 inches) in thickness to 10 millimeters (0.3937 inch). After passing through the caliber mill, the plate passes through a polishing mill in order to obtain a smooth surface. In both mills, the plates are kept wet, a certain amount of impurities being thus got rid of. In cutting the plates, it is customary, on account of flaws, to make the plate longer than wanted—namely, 20 millimeters (0.794 inch) longer when the iron is good, 25 millimeters (0.984 inch) when medium, and 40 millimeters (1.57 inches) when bad.

Tin-plate manufacture.—For manufacturing tin plate, iron that blisters can not be used, as the blisters are apt to appear when the tin plating is being put on, and even if they do not, the iron is of inferior quality, especially as regards pliableness. The iron plates which have been rolled or cut into the length, width, or thickness desired, are placed on top of one another and are covered with a defective plate that can be used a number of times for the same purpose. The cover is to prevent waste, which, when the iron is not heated above red-hot, is, for 100 kilograms (220.46 pounds) of rolled plate, from one-half of one per cent to one per cent; when the iron is heated above this point, the waste is much greater. In all, thirty to sixty plates are placed in the oven at once.

When the plates have become red-hot, they are rolled separately several times in the first mill. After having been rolled diagonally to a length of 600 millimeters (23.6 inches), they are replaced in the oven on top of one another. After all the plates have been rolled, the plate first replaced in the oven is passed under another roller two or three times and rolled to 100 to 130 centimeters (39.37 to 51.18 inches) long, after which the plate, which is still red-hot, is doubled. They are then replaced in the oven, six to ten plates being placed on top of one another and covered with an old plate. The warming of the plates in a full oven takes, according to the thickness of the plates, from one and one-half to two hours.

The piles of plates first introduced into the oven are extracted; the piles are pulled apart and doubled for the second time, but inversely. The plates are cut in two where doubled, and the sides are also cut. The waste varies from 4 to 15 per cent. The plates, which have now been doubled twice, are placed on their sides in the oven again, and treated as previously described. After the fourth tour, the piles are already finished or they are pulled to pieces for the third time, doubled and cut in two, replaced in the oven, and finished by a fifth rolling; the plates, according to their thick-

ness, being rolled into sheets of from 600 to 1,500 millimeters (23.6 to 59 inches) long. The rolled plates are then cut into the desired shapes, the different plates being separated by two workmen stationed at each mill; they are then treated with acid.

Treatment of the plates with acid.—The plates are cleaned with chloric or sulphuric acid in two ways: First, by placing, by means of a crane, a pile of plates in a wooden or lead tank filled with acid, and then washing with water; this process is continued until the oxide on the iron no longer combines with the acid. In the second method, the plates are placed separately between copper wires in an acid bath. By separating the plates with the copper wires, the acid acts more quickly and easily; the process is more perfect, the waste of iron is less, and not so much acid is required. Two men and four boys can put 10,000 kilograms (22,246 pounds) of plate of from 0.33 millimeter to 1.4 millimeters (0.0129 to 0.0551 inch) through this process in twelve hours. To 100 kilograms (220.46 pounds) of plate, not over 13 kilograms (28.65 pounds) of chloric or 7 kilograms (15.43 pounds) of sulphuric acid is used. About 3 per cent of iron is lost in this process. Chloric acid is slightly warmed and sulphuric acid is heated to 70° C. (158° F.). The heating of the acids is best effected by steam. The plates are placed side by side, but separated by copper wire to the number of sixty to two hundred and forty in an acid, and subjected to an acid bath; they are then placed in a tank which, by an aperture at the bottom, is kept full of flowing water. The plates are then placed for at least an hour in a much larger tank of water.

A better, but more expensive, method is to put the plates in flowing water, then in boiling water, and then to dry them in dry ovens. A small crane is used in handling the plates in this process, and soda or potash is sometimes put in the water with which the plates are washed. After the plates have been washed, they are placed in iron boxes, as nearly air-tight as possible, where they are heated to red heat during eight to twelve hours; then they are allowed to cool. The coal used in thus heating 100 kilograms (220.46 pounds) of plate is from 30 to 40 kilograms (66.1 to 84.2 pounds), and there is a waste of 3 to 6 per cent iron, or, if steel is used, a waste of 1 to 1½ per cent.

The annealing boxes are of cast steel or fused iron, and last, when made of steel, about a year; when made of iron, three months. The first time the plates are heated in an annealing box, they are heated for thirty-six hours; the second time, they are heated for forty-eight hours. The boxes are moved up and down in the furnace by means of the iron balls on which they are placed. They pass through the cool, the hot, and the white-hot ovens. After heating in the annealing boxes, the plates are treated in a stone tank with sulphuric acid. The acid should be from 5° to 8° areometer and about 70° C. (158° F.).

After being left in the acid four or five minutes, the plates are put into flowing water. The plates are then taken separately and placed in the

scouring chest, where they are inspected and scoured. They are then placed in chests which are filled with water twice daily; a small amount of soda is generally added to the water. The plates are left here till they are wanted in the tinning department.

Tin coating.—In each tinning furnace, five kettles are placed, some being filled with tallow or palm oil and some with tin. At each furnace there are three or four men employed in the process of tinning, and three or four girls for polishing the plates. The iron sheets are first piled in a kettle containing fat—pains being taken that the fat completely covers each side of the sheet. They are then put, to the number of one hundred and fifty to four hundred, in a kettle filled with molten tin, the tin being heated to a higher temperature for the thin plates than for the thick ones. Before the sheets are put in, the tin is skimmed and a spoonful of fat added.

After the first tin bath has lasted from ten to twenty minutes, the sheets are put in the brushing kettle. This kettle is two-thirds full of tin, the tin not being heated sufficiently for the fat with which it is covered to burn, as is the case in the first tin bath. When the sheets receive their tin coating in a few minutes, there is no deposit of oxide and it is not necessary to polish them with hand brushes, as is otherwise the case. But the sheets that are tinned so rapidly are never as strong as the sheets that pass through four or five kettles. The sheets that have been scoured with hand brushes are put in a fourth kettle, filled to the brim with pure tin, the surface of which, in order to avoid oxidation, is covered with palm oil. From the fourth kettle, the sheets are taken to the fifth.

For the fifth process, there are several kinds of apparatus by which the tin can be rolled. As the brilliancy and thickness of the tinning depends largely upon the number of rollings, the tin is rolled from five to eighteen times. The sheets enter the fifth kettle after passing through a pair of rollers; they pass through two more pairs on being taken out. The fat used in the fifth kettle should be so heated that the temperature of the sheets is kept between 250° and 300° C. (530° and 636° F.).

The sheets are moved from the fat bath to the rollers by means of a basket which is pushed up and down by a crane and a short lever.

In the last kettle of the five-kettle system, the tin coating is smoothed and made thicker or thinner according as the rollers are set.

Tin can be produced by a cheaper and easier method than the one above described, but is never as strong and durable. Sheets that are tinned as they are rolled are never strong enough for roofing or for domestic use. Although the purchasers do not notice the spots where the iron shows, these spots soon rust and the tin does not wear well. Terne tin is produced, when the coating of tin is made very thin, by strong friction when the plate passes under the rollers. The coating of terne tin consists of 40 to 50 per cent of lead and 50 per cent of tin. For the five-roller machine, a 2-horsepower steam engine is sufficient unless it is wished to manufacture terne tin or zinc plates, in which case a 4-horsepower engine is desirable.

The method of producing tin plate which has been described in detail is the one in general use in Austria and Germany. It produces the best tin, but has certain obvious disadvantages. The five kettles and four ovens are troublesome to take care of, the quality of the product is very largely dependent on the skill of the workmen, and the plates, when lifted from one kettle to another, are liable to oxidize.

Cleaning of the tin plate.—When the tin plate is taken from the roller, it is covered with fat and has to be cleaned with brushes, especially when the tin plate is to be printed upon. When brilliancy is required, the tin must also be free of fat, as, otherwise, particles of dust adhere to its surface. Some factories in Austria use the sawdust from their box-making departments for cleaning; others use lime, but a mixture of bran and flour is considered to be the cheapest cleaning material, as it can afterwards be used as food for pigs.

Three or four girls are at every tin hearth. The first girl takes the tin plate from the workman, her hands being covered with woolen rags, and plunges the plate into a box of bran; first, one side down; then, the other side down. The next girl, to whom she passes the plate, repeats the process, and hands it to the third girl. There are three boxes of bran. The bran in the first box into which the plate is plunged has been used in both the other boxes; the bran in the second box has been used in the third box, while the third box is filled with fresh bran each time the bran is changed.

The fourth girl lays the plate on a woolen cloth and polishes it with linen or deerskin. The cleaning must be done rapidly, while the plates are hot and the fat liquid, as the fat is otherwise much more difficult to get rid of.

There are many factories where the cleaning is done by machinery.

Where a fine polish is desired, the plates are rolled again under dry rollers. This is generally the case when it is wished to galvanize the plate with a coating of nickel, brass, or bronze, as less metal is required when the plates have been polished in this manner. When the plates are finished, they are sorted, weighed, and packed in boxes. They are generally divided in three classes, the plates belonging to the third class being sent back to the furnace.

Cost of production.—From interviews that I have had with a number of tin-plate manufacturers in Austria, I have found that even with the protection that is offered them—namely, 4.96 florins ($2) on 100 kilograms on heavy plates, 6 florins ($2.40) on thinner plates, and 8 florins ($3.20) when plates are tinned—they find it difficult to compete with England in cheap tin. England's great advantage lies in her ore and coal, both of which are much cheaper than the Austrian, and are to be found close to one another, instead of having to incur heavy freight charges, as is the case in Austria.

Tin plate is classified in Austria according to the purpose to which it is to be put, the thickness of the tin coating, and the size of the plates. The plates are rectangular, round plates having to be specially ordered. The round plates are used to produce watering cans and scales.

Roughly estimated, the total cost of producing 100 kilograms (220.46 pounds) of tin plate, exclusive of iron, is as follows:

Description.	Cost.	
Rolling:	*Florins.*	
150 kilograms (330.69 pounds) coal	0.86	$0.349
Fat	.24	.097
Labor	1.02	.414
Total	2.12	.86
Cleaning and heating:		
Coal, sulphuric acid, fat, and percentage of cost on use of boxes, etc	1.27	.556
Labor	.36	.146
Total	1.63	.702
Tinning:		
Fat	.60	.244
Coal	.11	.045
Sulphuric acid, oil, etc	.17	.069
Wooden box	.76	.308
Tin	6.00	2.436
Total	7.64	3.102
Total for producing 100 kilograms (220.46 pounds) of first, second, and third class tin, exclusive of ore	11.39	4.664

Use of tin plate in Austria.—Tin plate is not much used at present in roofing, as zinc plates, on account of their greater durability, are preferred. It is used most extensively in packing food, matches, etc., and for the various articles made by the tinner. Formerly, the tin used by tinners came entirely from England, but since tin plate made from fused iron has so largely taken the place of tin plate made of welded iron, the larger quantity of this article is produced at home.

The tin plate produced in the Austrian factories is considered by competent judges to be superior to the English, and even to the German. It is the extreme cheapness of the English tin plate that makes its export from England to Austria possible. The fact that the English is more brilliant, is to be attributed to the five or six polishings the plate receives prior to its being tinned. The Austrian tin plate has a thicker coating of tin than the English, but the plates are only polished from one to three times before being tinned.

MAX JUDD,
Consul-General.

VIENNA, *September 28, 1894.*

BELGIUM.

BRUSSELS.

All kinds of iron and steel sheets, and especially fine sheet iron and steel, plain and galvanized, are manufactured in this consular district. Tin plate is not made. The sheets are used in making boilers, reservoirs, locomotives, gas meters, wagons, etc., and in the construction of bridges and

vessels. Striated sheets for building purposes, ordinarily employed for floorings and stairs, are also manufactured here.

It is impossible to ascertain the size of billets, which vary according to destined use and dimensions of proposed sheet. Billets weigh from 40 to more than 500 kilograms (88 to 1,100 pounds). For sheets of ordinary dimensions, that is to say, from 8 to 10 feet in length, 3 to 4 feet in width, and one-fourth of an inch in thickness, the billets are usually 1 foot 5 inches to 2 feet by 3 to 4 inches. Prices per billet vary from 8 to 12 francs ($1.54 to $2.32).

The number of rollings are determined by the dimensions required, and degree of heat of billet, which, if hot, is more readily manipulated, and, consequently, requires fewer rollings. All systems of rolling are employed in Belgium. The mills used are identical to those employed in rolling mills in England, France, and Germany.

In a mill containing one stamping cylinder, two polishing machines, three plate-heating furnaces, and an annealing oven, there are employed two foremen, six master rollers, six catchers, six ornamental iron workers, two designers, two polishers, two assistant polishers, two weighers of cuttings, two cutters, two coal heavers, two scourers, two machinists; for ordinary furnaces, six head firemen, six assistant firemen; for annealing ovens, two firemen, two assistant firemen.

This force is equally divided into day and night shifts. Among the number are boys from 14 to 18 years of age, whose wages vary according to nature of work performed. Wages range from 4.50 to 5 francs (87 to 96.5 cents) per day, according to locality and efficiency of laborer.

It is impossible to secure any useful information relative to special methods of cleaning sheets. I am informed that a special method is employed here, but is kept secret by the manufacturers. The polished sheets, which are principally used in the manufacture of stoves, are obtained by scouring the surface with sulphuric or hydrochloric acids. They are rolled in the ordinary manner, and, when completed, as to dimensions, are put into packages, wrapped in a larger sheet, and subjected to reheating in a closed oven.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *July 17, 1894.*

LIEGE.

Neither tin plate nor sheets of iron or steel for tinning are now produced in this Kingdom. Though once a flourishing trade, it has been completely crushed by the new and larger enterprises of our time. I will remark, in passing, that, when its ruin was first threatened, an effort was made by the Government to stay it by laying a heavy impost upon the foreign product. But as the decadence continued, the duty was repealed and the industry left to die.

In my judgment, tin plate is being rapidly supplanted in the mechanic arts everywhere by other and better materials. If the Liege market may be accepted as a standard, very few uses now remain to it in Belgium. It is no longer employed for roofing or guttering; enameled iron has superseded it in the manufacture of household and kitchen utensils. My attention has been called to the fact that there is not a vessel of any kind in use in my family that is made of it. Grocers' and confectioners' boxes are all of wood or paper. Canning is practically unknown; it is even said that fruit is sold to England in crates and bought back in porcelain. Vegetables from France alone come in tin, and even for this purpose it is giving place to glass. Is there not danger, therefore, that by the time our new industry is established, other and superior products may possess the market.

In the absence of objective lessons, I turned naturally to the manufacturing experts for the information sought by the Department. A few inquiries at the rolling mills of the city convinced me that Mr. A. J. Fossoul, of Chenee, the last of the tin-plate makers and the present head of one of the largest iron plants in the Kingdom, was the person of all others for me to consult. Finding him as full of courtesy as of information, I ventured to request a synopsis of his views in writing, and, as a sort of guide to his mind, formulated a few questions, the answers to which I hoped might cover the ground and be of use to the parties interested. He prepared a paper which is so full of information and suggestions that I am led to adopt and embody it in this report. Following are the questions and answers:

When did Belgium cease to manufacture tin plate?

The last factory closed in 1875.

Was the industry ever profitable?

At one time, yes; but when the English enlarged their scale of production and we failed to keep step to their movements, something we did not care to do, it fell naturally into a decline. I will add that the Martin-Siemens steel was not then known or the result might have been different.

Would it be possible now for Belgium to compete successfully with England in its manufacture?

Yes, were it worth while; and as an evidence of the fact, I will mention that she has never entered the market of the world against her without success.

How would you proceed in entering upon such a contest?

I would locate myself as near to a coal mine as I could, secure a water power if possible, manufacture my own Martin-Siemens steel, have solid and well-regulated laminators, well-constructed ovens for reheating in closed vessels, well-mounted shears, and a scouring process which would enable me to utilize the water of the baths in the manufacture of sulphate of iron, have money enough to avail myself of every favorable change in the prices of materials, and have for my motto, "speed, quantity, and excellence."

When you manufactured the plate, were the methods employed the same as now?

There have been very few changes, I think. Just here, I will remark that it is necessary for the economical tinning of the sheets that they should pass through cylinders partly submerged in a tin bath so that they may receive the least possible quantity of the metal.

As it is understood that sheets made for roofing are very like those made for tinning, I should like to know your method of producing them? In your answer to this question, please tell me the size and value of the billet you employ and how many times you pass it through the cylinders.

Sheets for roofing are made either of iron or soft steel—the latter is always to be preferred—and their dimensions vary as the fashions of the countries to which they are sent. None are used in Belgium, and very few elsewhere than in Russia. They are never tinned, but are sometimes galvanized, though the usual custom is to paint them. The billets used are 6 inches in diameter at one end and only half an inch less at the other. They weigh anywhere from 264 to 352 pounds, and cost from $1.69 to $1.93 per 100 kilograms (220 pounds). After being rolled in fluted cylinders, the bars are cut into the desired lengths for lamination. The number of times they pass through the cylinders depends upon the thickness of the sheets required. Very thin ones are laminated several at a time in packets—the thinner the sheets, the greater the number in a packet and the oftener they pass through the cylinders.

How many men do you assign to each of these laminating mills, and what wages do you pay them?

Each mill requires a laminator and two assistants, and every oven two firemen and three assistants. The laminators and firemen receive from $1.15 to $1.55 per day and their assistants from 70 cents to $1, according to age. Firemen for the soldering ovens are paid from $1.55 to $2.90 per day, and their assistants from 60 cents to $1.35. Our company turns out 5,000 tons of fine sheets per annum, and has received the highest awards in the universal expositions of the world.

How could leaves for tinning be most economically prepared?

To answer this question I shall have to describe the whole process of their manufacture. In the first place, Martin-Siemens steel, called, also, homogeneous iron, should always be used for tin plate, its softness giving it an advantage over the Thomas and Bessemer varieties of this metal. The soldering ovens used to heat the billets should be so placed as to heat the boilers with their escaping flames. The process of rolling the billets I have before described. The soldering ovens should have a capacity of 22,000 pounds for every twelve hours. The best boilers are the multitubular of Mathot & Bailly, constructors at Chenee-lez-Liege. These boilers are really nonexplosive and most desirable in every way. While their production of dry steam is great, their vaporization is small. I would have two condensing steam engines, horizontal system, Meyer trigger, with two *chapelles* and a fly wheel 26 feet in diameter and weighing from 40 to 50 tons. Each engine should have a forge of from 120 to 150 horsepower and move four cages. One of them should turn the fluted cylinder at the end of the train. The cylinder should have six or seven flutings. Each mill should have one or two ovens, English system, with either horizontal or inclined soles. For the soldering ovens, I would use the Koerting blowers. With them, very little fuel is required and coal waste may be used. The cylinders for sheet-iron laminators being expensive and subject to great wear, they should be well tempered and well proportioned. I conclude by saying that, with such a plant as I have described, I could turn out 5,000 tons of fine sheets per annum as economically and profitably as any other establishment in the world.

As Mr. Fossoul's information concerning the surfacing of the sheets is not so full as it might have been, I obtained the following details from another member of his company:

Every maker of sheet iron or steel for tin plate knows that its manufacture is attended by the nicest and most exacting requirements. Our process was, after reducing the bars to the required thickness, to cut them into the length of the sheets we wished to produce and then reheat them in the reverberating oven. When they became a reddish brown, they were run, three or four together, through the cylinders. When the requisite thinness was obtained, they were cut into the desired dimensions, usually 8 by 12 inches. The small plates were then scoured with sulphuric acid and passed to the polishers. The polishing was always done when the sheets were cold, and was repeated several times. Before each of these operations, they were reheated in closed boxes, so constructed that the sheets rested only on their

edges. They were never opened until the sheets were cold. Great care had to be taken in raising the temperature to prevent fusion. These processes increased both the smoothness and malleability of the plates. They were then dipped into the milk of chalk, and when taken out, rubbed, one by one, on both sides with very fine sand and placed in a small reservoir of clean water, from which they were taken by the tinner.

NICHOLAS SMITH,
Consul.

LIEGE, *August 13, 1894.*

FRANCE.

PARIS.

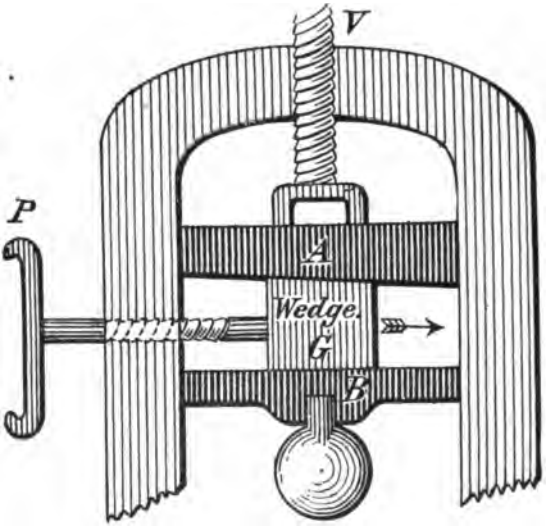
There is a considerable tin-plate industry in France. Several important iron and steel works are engaged in the manufacture. A list of them is annexed to this report. The iron and steel industries of France have an organization known as the Comité des forges de France, with a central office in Paris. Through the courtesy of Mr. H. Pinget, secretary of this organization, I have been enabled to obtain, after some delay, the subjoined information from several of the companies most largely engaged in this industry.

Both iron and steel sheets are used. The former are produced from scraps of puddled iron of good quality and are utilized for the fabrication of tin plates of the second grade. The latter, which are more extensively used, are made from soft steel produced in Bessemer mills by the Thomas and Gilchrist process or in the Siemens-Martin furnaces. The dimensions and the weight of the ingots vary according to the number and size of the sheets to be produced. The Bessemer ingots, as a rule, weigh from 900 to 1,000 kilograms (1 kilogram=2.2046 pounds), and are divided into blooms 150 by 150 millimeters in size (1 millimeter=0.0394 inch). These blooms as delivered to the factory weigh from 95 to 140 kilograms each. The blooms produced from the Siemens ingots, obtained at Guégon, Saône et Loire, France, are about 170 by 170 millimeters in size and weigh also from 95 to 140 kilograms. The average cost of the plates at current prices is 120 francs (1 franc=19.3 cents) per ton.

The first operation is the conversion of the bloom or the ingot into *bidons*—that is to say, into plates 160 millimeters (6.3 inches) in width, obtained by means of one *rechauffage*, or heating, and separated by shears. The blooms are then reheated and rolled into sheets. From each *bidon* are produced, according to the thickness desired, either two, four, or eight sheets, by means of one, two, or three foldings.

Each *laminoir* (rolling machine) consists of two pairs of cylinders of chilled cast iron about 550 millimeters (19.65 inches) in diameter; the first pair is used to flatten the *bidons* after the first heat. The second pair completes the rolling, which involves a number of heatings corresponding to the number of times the sheets are folded, whether one, two, or three. Water is not used with the second pair of cylinders. Each *laminoir* is equipped

with two furnaces—one for heating the *bidons*, the other in stretching and folding the sheets. Each *laminoir* is provided with a device for *serrage à coins* (compression by wedges), as illustrated by the accompanying rough sketch:



UPPER PART OF THE HOUSING FRAME OF A ROLLING MACHINE.

Serrage à coins (*compression by wedges*).—The piece A being fixed and not being able to move upwards, as it is pressed by the screw V, the wedge G, moving in the lateral direction indicated by the arrow (motion produced by the screw P), presses against the piece B and forces it down.

Each rolling involves the labor of one chief roller and from three to four assistants. The working day consists of twelve hours and the wages (which are regulated according to the tonnage rolled) vary from 7 to 9 francs ($1.35 to $1.74) per day for the roller, from 2.75 to 5.60 francs (53 cents to $1.08) for the assistants, and from 5.70 to 6.35 francs ($1.10 to $1.23) for the stokers.

The rolling completed, the sheets are treated by machinery with a solution of sulphuric acid diluted with water. The washed sheets are then inclosed in sealed vessels and reheated in gas furnaces. After being cooled, they are passed three times between three pairs of highly polished cylinders, and then undergo an additional heating at a lower temperature and of shorter duration than the preceding. The sheets are then subjected to a second washing with sulphuric acid, when they are ready to be coated with tin.

The following is a list of the leading iron and steel mills of France:

Bassin de Paris.—Société Anonyme des Forges et Fonderies de Montataire, Département de l'Oise.

Bassin de l'Est.—De Pruines, à Sémouse, par Plombières-les-Bains, Département des Vosges; Société Anonyme des Forges de Franche-Compte,

Besançon, Département-de-Doubs; Chavane Frères à Baing., Vosges Department; Les Héritiers de Mr. R. de Bruyer, Aillevillers, Département de la Haute-Saône.

Bassin de l'Ouest.—Forges d'Hennebout, Département de Morbihan; Langlois, Léon et Cie., à Basse Indre, Loire Inférieure.

Center.—Campionnet et Cie., à Guégon, Département de Saône et Loire.

SAMUEL E. MORSS,
Consul-General.

PARIS, *November 16, 1894.*

RHEIMS.

The information desired has been very difficult to obtain on account of the unwillingness shown by competent persons to divulge the methods used by them in the manufacture of sheet iron and steel. I have, in fact, met with positive refusals from the manufacturers to permit me to visit their establishments, and even the dealers have turned a deaf ear to my demands for information. My investigation has, therefore, been most arduous, and although the data furnished can, I believe, be relied upon, I am nevertheless sorry to say that they do not fully answer the interrogatories propounded. I am continuing my investigations with the view of securing reliable information concerning the manufacture of steel sheets, and I hope to be able in the near future to embody the same in a supplementary report. I am informed that some few steel sheets are made by the same process as iron sheets when especially ordered by regular customers of the iron-sheet makers. These orders, however, are only filled as a matter of accommodation, and, in that case, a billet is used in the first stage of the process to give to the block of steel the shape required.

The department of Meurthe and Moselle, situated on the eastern frontier of France, north and south of latitude 49° and west of the German province of Lorraine, has become, since 1879, one of the most important for the manufacture of iron and steel, furnishing actually 35 per cent of the metallurgic output of France. The development of this industry in the department of Meurthe and Moselle commenced with the application of the process invented by Thomas and Gilchrist, the introduction of which contributed in a great measure to the displacement of the then manufacturing centers of steel, and is considered as partly responsible for the metallurgic crisis which has prevailed during the last few years in Great Britain and other iron-producing countries of Europe, depriving Great Britain for a while, and it may be forever, of its preponderance and power to control the iron market of the world. Statistics show that, from 1882 to 1886, the production of pig iron in Great Britain fell from 8,493,287 tons to 6,870,665 tons, while during the same period its exportation dropped from 4,353,552 tons to 3,389,107 tons, and the average price for warrants on Scotch cast iron was

reduced from 49s. 4d. ($11.98) to 39s. 11d. ($9.72). The production, which in 1889 had temporarily reached 8,245,536 tons, amounted to only 6,616,890 tons in 1892, and the exportation declined to 2,740,217 tons, which, however, owing to a slight increase in wages, secured an advance in price corresponding to 41s. 10d. ($10.18). In 1892, the strike of coal miners in Durham compelled nearly all the blast furnaces to shut down, leaving in May, 1892, only three of them in operation out of eighty-three which were running in 1891 in the district of Cleveland. As a natural result, during the first six months of 1892, Cleveland turned out but 55 per cent and Cumberland and Lancashire but 34 per cent of their usual production, while the United States was transforming nearly one-third of the 55,000,000 tons of iron ore produced in the whole world. Of this, 16,243,000 tons were extracted from its own soil, and 1,200,000 tons were imported from Spain, Cuba, Algeria, Greece, and Elba. It thus became not only the largest iron-producing country, but secured the power to regulate the metallurgic market of the world.

France, less fortunate than her sister republic, and with a comparatively small territory already covered with railroads, is witnessing, with great anxiety, the protective tariffs of foreign countries prohibiting her exportation and the decreasing demands for steel and iron at home, and is making strenuous efforts to protect the vast interest invested in this heretofore prosperous industry. The French railroads which, at first, used so much metal, are now needing less and less as the iron rails are replaced by steel rails, computed to last seventy-five years, and as the following figures, showing the amount of rails used in France for the last few years, plainly illustrate:

Year.	Quantity.	Year	Quantity.
	Tons.		*Tons.*
1869	183,628	1887	108,898
1875	217,546	1888	93,868
1880	208,553	1889	58,046
1883	241,334	1890	66,844
1884	284,031	1891	112,857
1885	249,418	1892	163,840
1886	170,595		

The danger threatening the metallurgists of France can be averted only by finding new outlets for exportation and improving the manufacture so as to command higher prices justified by the excellence of their products.

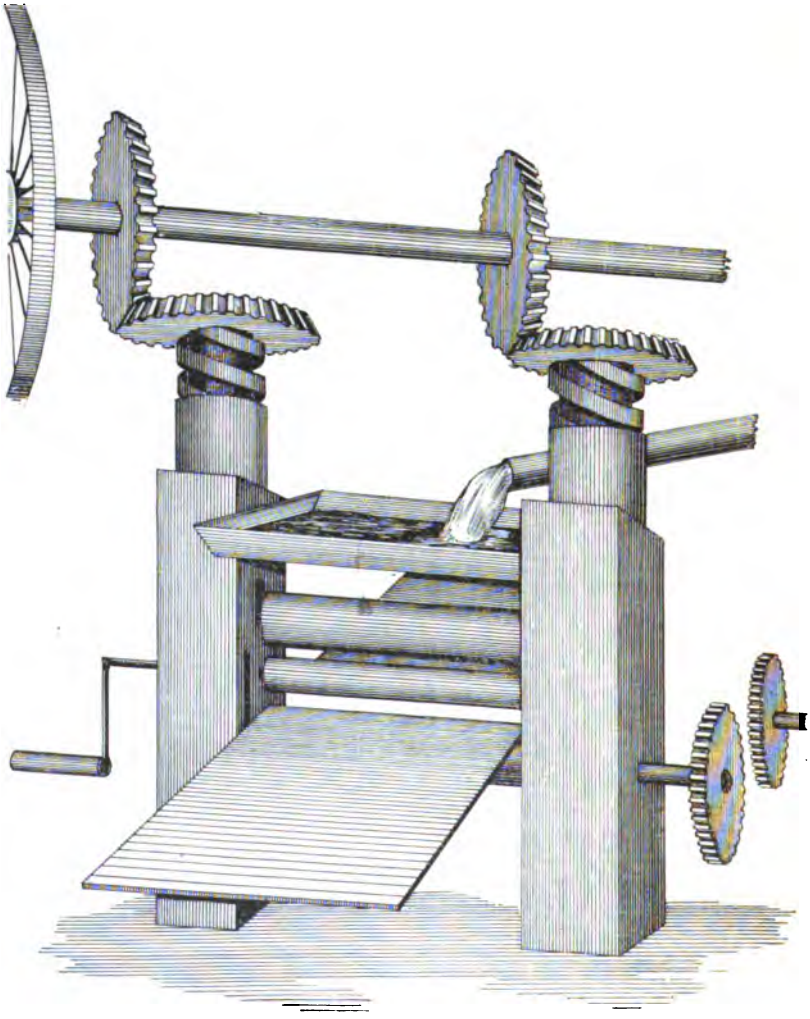
Such is the aim toward which tend the efforts of the representatives of this great industry in France, prominent among whom are those located in the eastern departments of France, where the steel-making process of Thomas and Gilchrist is in general use. This process permits the use of the heretofore considered valueless phosphureted iron ores and the obtaining of revenue from their very scoriæ, which are sought for and utilized for fertilizing purposes. In those eastern departments, phosphureted iron ores can be secured at 1.50 francs (29 cents) per ton when extracted from open mines, and at

from 2.50 to 3 francs (48 to 58 cents) when taken out of subterranean mines. The abundance of this ore and the reasonable price paid for coke (from 22 to 23 francs=$4.24 to $4.44 per ton) in those regions enable the local metallurgists to refine iron at a cost of 45 francs ($8.68) per ton, and notwithstanding the competition of the numerous foundries located in other parts of France, which have had to change their plants in order to adopt the Thomas and Gilchrist process, it is probable that the natural advantages possessed by the eastern departments, and especially that of Meurthe and Moselle—comparable to those so long enjoyed by England, who, having the coal and the ore side by side and in profusion, could manufacture iron at such a low cost, extracting, as it were, from the entrails of the earth the ore simultaneously with a quantity of coal sufficient to convert the former into metallic iron—will enable the favored department to stand in the front rank so long as the deposits of manganese, the indispensable purifier of phosphureted minerals, are not exhausted. The increasing demand for steel on one hand, and the very limited deposits of manganese on the other, make such a contingency probable, for although manganese enters into the manufacture of cast iron in the small proportion of 2 or 3 per cent, yet nine-tenths of its production is absorbed by the iron industry, and its use, which, in 1888, amounted to 173,000 tons, reached 316,000 tons in 1891.

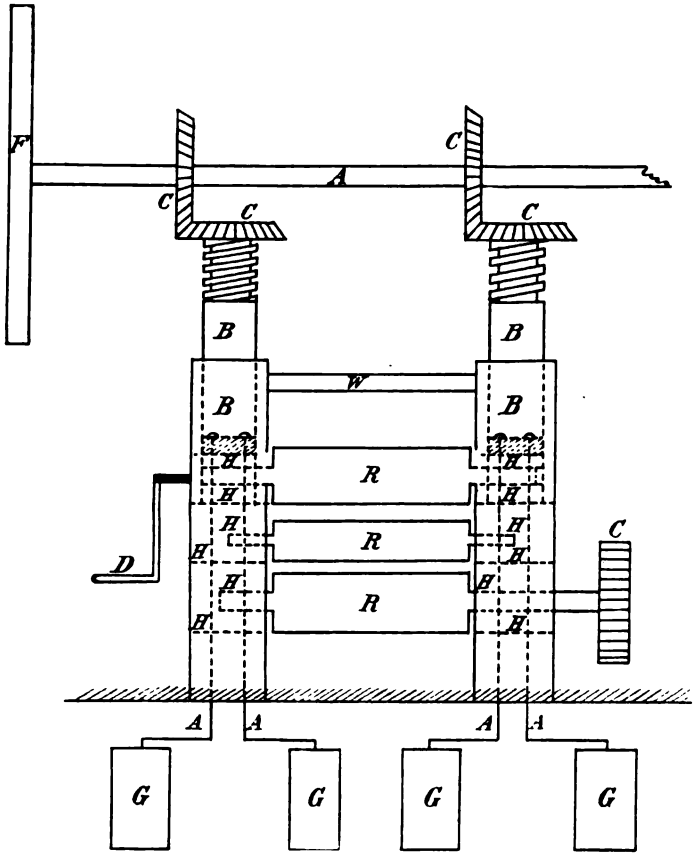
As iron has replaced wood in nearly all constructions, so is steel now superseding iron in its various uses. The reasons for the preference given to steel are obvious when we consider that it is 33 per cent lighter than iron, offers 43 per cent more security in point of solidity and resistance, a greater elasticity than iron, and, last but not least, is being, in some instances, sold at lower prices. Hence, the production of iron is decreasing every day, and the transformations which the metallurgists are making in their foundries to adapt themselves to circumstances allow them to produce steel cheaper than iron, as evidenced by the report that U-shaped steel bars were sold and delivered lately at prices much lower than those paid for iron U bars. So great is the revolution in favor of steel, that it is beginning to be used here even for the manufacture of tin plate, the sheets from which the latter are made being of iron and steel and put to the same purposes.

Two rolling mills are used for making sheets in this district. One, used for making plates of 2 centimeters (0.78 inch) in thickness and over, is composed of two smooth superposed cast-iron cylinders or rollers, each from 2 meters 20 centimeters to 2 meters 30 centimeters (86½ to 88¾ inches) in length and 60 to 70 centimeters (23 to 27 inches) in diameter, fitted in two large iron pillars, on top of which two large screws support and are geared with the rod of a fly wheel which is turned by hand and regulates the pressure to be given by the top roller to the plates when passing in the mill.

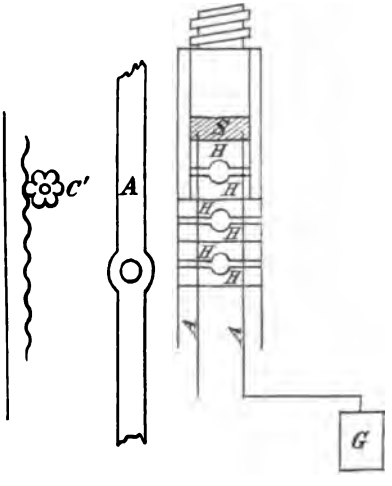
The other rolling mill used for converting the plates into sheets has, in addition to the former, a third cylinder or roller only 20 to 23 centimeters (7¾ to 9 inches) in diameter which is adapted between the two large cylin-



LAUTH & DEEV ROLLER.



F. Fly wheel.
A. Rod.
C. Cogwheels.
B. Box.
R. Roller.
W. Water recipient.
D. Crank to raise tables.
H. Chairs.
S. Spring.
G. Counterbalance.
C'. Cogwheel, connecting with crank *D*.



ders. The middle and lower rollers are immovable, having no vertical, but only a rotary, motion, and the pressure on the metal comes through the top cylinder, which is connected with the fly wheel. Two tables, one on each side of the rollers, hold the sheets and raise or lower them to the level of the interstices between the cylinders. These rollers, the accompanying sketch of which will better give an idea of their construction, are known as the Lauth & Deby *laminoirs*, and are manufactured at Bussy, in the department of Haute Marne.

Iron sheets are made in the following manner: After the process of puddling, the iron is cut with a steam knife into bars of equal length, which, after being tied together in bundles from 25 to 60 centimeters (9¾ to 23 inches) in height, according to the size of the sheets or plates desired to be manufactured, are heated in the furnace to remove part of the recrement contained in the ore and are afterwards run between the rollers of the first-mentioned mill for the purpose of causing the lumps of iron to stick together. To further separate from this new-formed body the balance of the recrement, which has been pressed to about 15 or 20 centimeters (6 to 7¾ inches) of its extremities, it is returned to the furnace and receives subsequently, under heavier pressures, as many more rollings as are necessary to reduce it to a thickness of 2 centimeters (0.78 inch), it being estimated that, with each pressure, the plate loses as much as one-half to one-third of a centimeter (0.19 to 0.13 inch). The plate, thus reduced, is then passed through the three-roller mill, where a rolling with two or three pressures, reducing the plate to 1 centimeter (0.39 inch) in thickness, suffices to remove all the scum remaining in the iron. It is then placed back in the furnace to be heated a last time, after which it is given its last rolling and pressures, when the sheet comes out perfectly clean, smooth surfaced, and with the desired thickness and dimensions. During all these rollings, water is kept continuously running on the cylinders, washing from the sheets all extraneous matter as fast as it is being pressed out of them.

The same number of men is required at each stage of the process. They are eleven, and earn, on an average, per day, as follows:

Description.	Wages.	
	Francs.	
1 foreman who regulates the pressure	8.00 to 9.00	$1.54 to $1.74
1 fireman	7.00 to 8.00	1.35 to 1.55
1 first assistant fireman	5.00 to 5.50	.96 to 1.06
1 second assistant fireman	4.00 to 4.50	.77 to .87
2 catchers in front	4.00 to 5.00	.77 to .96
2 catchers behind	4.00 to 5.00	.77 to .96
1 man to tie the iron bars together	3.50	.67
1 clipper	3.50	.67
1 boy about 14 years old for lifting the tables supporting the sheets	1.50	.29

For manufacturing sheets 1 centimeter (0.39 inch) in thickness, 1 meter 70 centimeters (67 inches) in width, and 15 meters (49 feet) in length and

weighing from 2,000 to 2,500 kilograms (4,400 to 5,500 pounds), an extra man is necessary. With the exception of the clipper, the man to tie the bars, and the boy, all the laborers are paid in proportion to the work they do, receiving a stipulated amount per 1,000 kilograms (2,200 pounds) manufactured, and the above figures represent the average wages earned by each man for from 10,000 to 12,000 kilograms (22,000 to 26,400 pounds) of commercial sheets made per day.

The celebrated Nasmyth steam hammer (*marteau pilon*), invented in 1840, is still used in the manufacture of car axles, buffers, anvils, etc., but no billet of any kind is used or necessary for making iron sheets.

The competition with foreign countries is hampered in France by the cost of transportation of ores and coal, and, having this fact in view, the recent decree of the Minister of Public Works of Prussia lowering the schedule of Prussian railroads on coke and ores, whether imported or domestic, to the extent of 5 marks ($1.20) per car for coke, and the reduction of 15 marks ($3.60) per car on the price of transportation of ores from Luxemburg, have attracted considerable attention in France among the metallurgists, who are urging their Government to follow the example set by their neighbors, hoping that such a reduction will greatly assist them in overcoming the difficulties which surround them and which threaten to greatly cripple, and perhaps destroy, the metallurgic industry of this country.

HENRY P. DU BELLET,
Consul.

RHEIMS, *July 31, 1894.*

ST. ETIENNE.

In accordance with the instructions in relation to the manufacture of sheet iron and steel, I have made careful inquiries, but find that the products of the foundries in this district do not come within the scope of the interrogatories. The sheets manufactured here are made for boilers, stoves, and steel plates for vessels, and, on account of the thickness, could not be utilized for tin plate. My delay in responding to the instructions of the Department has been caused by the indisposition of the manufacturers to furnish me with the required information. The nearest point to this consular district where iron and steel sheets are manufactured for tin plate is the department of Saône et Loire, in the consular district of Lyons.

CHARLES W. WHILEY, JR.,
Consul.

ST. ETIENNE, *August 23, 1894.*

GERMANY.

BERLIN.

After having written to several of the most important firms manufacturing sheet iron and steel, I have the following information to submit: The sheets are of mild steel (*Fluss-eisen*), and the purpose to which they are put is the construction of boilers, reservoirs, and bridges.

The billets used weigh from 120 to 1,500 kilograms (265 to 3,607 pounds) and cost 70 marks per 1,000 kilograms ($16.66 per 2,205 pounds).

The number of rollings is eighteen to thirty-five, according to thickness and size of the sheets required.

The mills used for rolling have 1,000 horsepower compound condensing engines. Seven men are employed at the rollers, who receive 3 to 5.50 marks (71½ cents to $1.31) per shift.

During the rolling process, the sheets are either strewn over with pine needles or sprinkled with water or cleaned by sweeping. The completed sheets are partially fretted or half-scoured.

C. H. ABBOT,
Vice-Consul-General.

BERLIN, *July 5, 1894.*

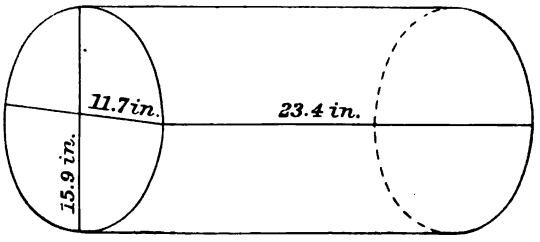
CHEMNITZ.

The following report is submitted in accordance with instructions:

There is no rolling done in my district, such as the consulting engineers called for, but in Teplitz, in Bohemia, just over the Saxon border, whither I went and where I got most of my information, I have instituted a series of inquiries out of which I hope to get further information.

The Rudolph's *hütte*, in Teplitz, Bohemia, has a new, successful, simple, and very profitable method for manufacturing tin plate. The works are at Zuckmantel, a suburb of Teplitz, fully 1,000 feet above the city. This high altitude was sought for the purpose of being near a coal mine. The mine joins the works. Most of the tin comes from Wales, although tin has been mined for ages in Bohemia's hills.

The iron and steel, Martin and Bessemer, is brought to the works in huge ingots weighing 1,653½ pounds and measuring 11.7 inches thick, 23.4 long, and 15.9 wide, shaped thus:



This ingot is taken from a long, narrow railway, under which an adjustable wagon can be shoved for the purpose of carrying the ingot to the furnace. Into this, it is pushed by an hydraulic plunger. It enters by a contrivance specially arranged and designed for the purpose. It is put into a closet, or furnace, where the heat is most intense. When at a white heat, it is shoved out, by another plunger, to the other side, on to a wagon, which takes it along the rails to the huge rolls. These are triple universal rolls, with powerful pressures. They are a combination of Lauth's rolls with attached double rolls whose speed increases in at least a very great ratio. The ingot goes through the large roll until it is reduced in thickness to about 50 millimeters (1.95 inches); this with one heating. It is then taken on a wagon along rails to the shears, where the rough ends are cut off. By means of the crane—a most easily adjustable and useful one—this 2-inch plate is carried to furnace No. 2, whence, after being heated to a white heat, it is carried along the railroad to the Lauth rolls,* where, under rapid rolling and tremendous pressure, it is rapidly reduced to 0.19 inch. Just as it leaves the furnace, and before going into these rolls, it is so moved by an ingenious arrangement that the workmen can clean off both surfaces, so as to protect the rolls.

All the rolls have adjustable tables on both sides, worked by levers. By means of these tables, the plate is made to shoot from the first roll to five double rolls in succession. These run with rapidly increasing velocity. The plate now measures 45 to 55 yards in length and from 0.0585 to 0.078 inch in thickness. Beyond the rolls, is a roll way 50 to 60 yards long. Two-thirds of the way down, are shears that cut the plate into any required length—as a rule here, from 14 to 17 meters (one meter=39.37 inches). These sheets are transported to various sections of the works and are again cut into the various sizes required by the uses of trade. After the pieces leave the shears, they are rolled cold; this, for the purpose of smoothing and polishing the surfaces. From the cold rolls, the plates intended for tinning get a bath or dip in sulphuric acid (*Schwefel sauer*); thence, they pass to the furnaces, and are heated. From the furnaces, they are taken to the tin baths. Here, they are dipped; first, into a tin chloride; then, into the molten tin.

I may say here that, contrary to all predictions and expectations, the plate comes out practically ready for tinning when it leaves the long line of double rolls; contrary, too, to all predictions and expectations, it comes out straight and sharp edged. The highest hopes entertained when the system was about to be introduced were that the rolls would turn out plate that would afterwards require fine rolling and manipulation to finish. Such is not needed—only the cold rolling referred to above. The saving here, then, is simply enormous, both in time and waste. Most of the tin plates were 1 yard long by 15 or 16 inches wide, though I saw several sizes. The zinc sheets were 2½ meters long by 1 meter wide (99.4 by 39.37 inches); hence they had to be handled by machines. When the ingot gets its first rolling to 50 millimeters (1.95 inches), it goes to the shears. It measures 1½ or

*See diagram of Lauth rolls with report from Rheims.

1⅔ meters (59.06 to 65.6 inches) in length. It is sometimes cut into two nearly equal pieces, each of which is afterwards run through, thus minimizing loss in ragged ends. Machinery is made to do the work of men at every possible point. Furnaces, rolls, railroads, shears, and wagons are worked by machinery.

Process of tin dipping.—There are two men, one of whom dips into the tin chloride, and lifts out and then dips into the liquid tin. Out of this, he takes it and puts it into a larger basin filled with molten tin and tallow fat. This latter floats on the surface, adheres to the plate and prevents oxidation. In the last basin, are two rolls through which the plate, by means of a lever, is sent. This is to smooth off surplus tin and give a smooth surface. The workman at this basin lifts the plate by means of tongs and places it on a railway on which are wooden pegs against which the plates lean. From this railway, the plates are taken by girls, who plunge them into large troughs filled with rye bran. One girl, on the side next to the basin, rubs each plate horizontally through the bran and then passes it to a girl at a trough beyond. After the bran bath, or scouring, the plates are wiped off with soft waste. They are then carefully examined. If blisters or imperfections are found, they are scraped off and the sheet or bad place is retinned.

Zinc plates.—If the purpose is to make zinc plates (and many are made at Teplitz, because they are much cheaper), the process is similar, except that an ammoniac bath, to help adhesion, takes the place of tallow on top of the molten zinc. It is thrown in in a crystalline form. Lead sheets are made, too; but to these a little tin is added for the purpose of making the lead stick better.

Advantages of the system.—It is hardly necessary, now, after the description, to point out the advantages of this system. It will be seen how great is the saving in time, labor, and material. Machinery has been made to do much that was formerly done by a large number of workmen. For example, the rolls are adjusted by machinery, and with an accuracy never possible to human hand or eye. The tables on both sides of the rolls are lifted by machinery, and the ingots and sheets are carried to the fires, rolls, etc., always by machinery.

Accuracy in rolling is attained by gears turning or screwing the rolls down, both sides moving at the same time.* The importance of this arrangement will appear to anyone who knows how necessary is a smooth and even surface and how hard it is to get the same where the rolls are raised and lowered by hand levers or bars. There are machines, too, for dipping the tin sheets. These, however, were not operating during my visit. In one of them, wherein zinc plates are dipped, are huge revolving brushes for rubbing off surplus zinc.

Persons employed.—The works run day and night, employing about seven hundred hands. They turned out in 1892, during every twenty-four

* An old hand told me that a crown roll, *i. e.*, a roll just a little thicker at the center and sloping off at the ends, might give even better results.

hours, about 66,138 pounds of sheet tin. On the large rolls, where the ingot goes in the first time, after being taken from the furnace, are fourteen men, four of whom get from $1.60 to $2 a day; others get $1 and $1.20. The average laborer receives 60 cents a day; day laborers (common laborers), 40 cents a day; mechanics, 75 cents to $1; boys and girls, from 25 to 40 cents a day. Most of the help are paid according to what they make.

An important fact is that the huge rolls (breaking-in rolls, they might be called) and the others are not run at the same time. All the speed and power are concentrated. For this purpose, two steam engines—one with 870 millimeters (34.25 inches) diameter and 1,250 millimeters (49.21 inches) hub for the triple (breaking down) universal rolls and the Lauth rolls, and one with 1,000 millimeters (39.37 inches) diameter and 1,400 millimeters (55.12 inches) hub for the five double rolls—were built. Both engines work with 8 atmospheres additional burden; but both the universal rolls and Lauth's rolls do not run at the same time, thus letting all the power of the engine go to each when each runs. Then, again, the workmen who attend the universal rolls follow the plate from roll to roll or assist at the fires and in railroading the plates. Competition has compelled this close economy of power and labor. Then, too, I was told, there is need of just such a system to manipulate the Martin and Bessemer ingots or blocks, both of which are necessarily large. Efforts have been made with small ones, but thus far unsuccessfully. Under the old system, great losses of time, labor, and material grew out of the cooling of the plates before they were finished. This system is a success. Its adoption all over the world is only a matter of a few years. The effort in Teplitz is due in a very large degree to the courage, skill, and enterprise of Karl Wittgenstein, of Vienna, Director Schneefuss, Alfred Trappen, and one or two others.

I should add that the cost of living in Bohemia is very small; for example, shoes, clothing, etc., cost less than half what they do with us. Rents run from $28 to $30 per year for two rooms—kitchen and bedroom; an attic room costs $16 to $20 per year. Beef, pork, and all kinds of meat are dear—from 25 to 35 cents per pound. Then, again, wages differ, men in Teplitz getting almost twice as much as men work for in the Bohemian forest country, where, again, living is only half as dear as it is in Teplitz.

Following are answers to the questions of the circular:

(1) The plates are of iron and steel.

(2) The sheets are put to all kinds of purposes, from the smallest articles of domestic use to heavy corrugated roofs for iron works. Much of the tin made at Teplitz is taken by the Austrian Government. As to the lead-covered plates made in Teplitz, no one knows for what purpose or to what uses they are put. Then, too, there are zinc plates.

(3) The size of the iron billet or block of Martin or Bessemer iron or steel is 11.7 inches thick, 15.9 inches wide, and 23.4 inches long. The cost I could not ascertain.

(4) The number of rollings depends, of course, on the condition of the iron. To reduce an ingot to 50 millimeters (9 inches)—the thinness usually attained at the first rolling—fourteen or fifteen times is the number of transmissions. It (the plate 50 millimeters thick) is put into furnaces heated white, and is then run rapidly through rolls till it is reduced to 0.0585 to 0.078 inch.

(5) The rolls used are: (*a*) For breaking in, a triple universal roll; (*b*) Lauth roll, followed by a series of double rolls.

(6) The number of men at each mill depends on needs. At the huge breaking-in roll, fourteen are at work. These, however, scatter and aid at other rolls and points till it is time to run another ingot through; hence it is hard to say definitely just how many are employed at each stage. There are always enough to make the handling safe and easy, as well as rapid; this last is the most necessary, since rolling cold, *i. e.*, at greatly reduced heat, endangers the rolls, huge castings 15 to 20 inches thick snapping off under the pressure.

(7) Of the fourteen men at the big rolls, four receive 4 to 5 florins a day ($1.60 to $2); the others average $1.

(8) The plates are brushed in the rolling, and, when tinned, are run through rye bran.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *July 6, 1894.*

SUPPLEMENTARY REPORT.

Uses and prices of tin plates.—Tin plates, useful for technical and household purposes may be made from iron and steel plates. It depends on the uses to which the plates are to be put as to which is best.

The principal use of tin plates is in making pots, kettles, etc. The tin covering resists the oxidation due to dampness, common to both steel and iron, and it resists, also, the action of acids; therefore, all kinds of utensils may be made of iron or steel and covered with tin, if the purpose is to guard against acids and oxidation.

The size of tin sheets is very different, and depends upon distance of transportation, uses, etc. The prices here are based on weight, with the kilogram (2.2 pounds) as unit. Of course, thickness counts as a factor. One square meter of iron tin plate 1 millimeter thick, weighs 7.5 kilograms (16.5 pounds); 2 millimeters thick, 15 kilograms (33 pounds); 1 square meter of steel tin plate 1 millimeter thick, weighs 7.9 kilograms (17.4 pounds); 2 millimeters thick, 15.8 kilograms (36.8 pounds). The average prices here are, for 100 kilograms (220 pounds) of iron tin plate, 22 marks ($5.23); 100 kilograms of steel tin plate, 38 marks ($9). Thus a plate 2 millimeters (0.078 inch) thick, 1 meter (39.37 inches) wide, and 2 meters (78.74 inches) long costs 6.95 marks ($1.65). The prices, however, fluctuate with the

prices of the raw materials, and these, of course, depend on the supply and demand; ofttimes, on speculation.

In most cases, in this country, the plates are made from huge billets, or ingots, of iron, gained from the iron ore. These are hammered into oval form, and differ in size, running from quite small ones containing one, and sometimes less than one, cubic foot to large ones such as are used at Teplitz, in Bohemia, which measure 11.7 inches thick, 15.9 inches wide, and 23.4 inches long. Dual, or double, rolls are used, especially where the ingots are small. The number of rollings, of course, depends upon the condition of the iron—for even ingots of the same iron are not uniformly soft—and upon the required thickness of the plate. I may say the rolling is done as rapidly as possible, the object being to reduce the ingots with one heat.

Size of rolls.—Experience has demonstrated that rolls of cast steel are best, and that their size should depend on the width of the sheets. The following table shows what size of rolls the tin sheets take:

Sheets.		Length of rolls.		Diameter of rolls.		Diameter of axis.	
Mm.	*Inches.*	*Mm.*	*Inches.*	*Mm.*	*Inches.*	*Mm.*	*Inches.*
392	15.44	497	19.57	235	9.25	183	7.2
889	35.03	994	39.13	340	13.39	235	9.25
1,308	51.5	1,491	58.7	497	19.57	288	11.33
1,805	71.06	1,988	78.27	602	23.9	340	13.39

The roll revolutions depend upon the thickness of sheets—thin sheets, forty revolutions per minute; middling thick, twenty-five to thirty; thick, twenty to twenty-two.

The driving power is usually steam, and depends upon the width of the sheets. Sheets 1.8 meters (70.86 inches) wide and 10 millimeters (0.3937 inch) thick require 60 horsepower; 1 meter (39.37 inches) wide and 5 millimeters (0.197 inch) thick require 40 horsepower; 0.5 meter (19.68 inches) wide and 3 millimeters (0.118 inch) thick require 20 horsepower, etc.

The number of workmen, of course, depends on the work to be done. The double rolls described require, usually, two men.

Wages.—Wages run from 25 to 30 pfennigs (6 to 7 cents) an hour. In Bohemia, they are better. When possible, work people are paid by what they make, hence skill and energy count for a great deal.

Process of tinning.—First of all, the plates must be prepared. To remove heat scales, the sheets are dipped in a thin solution of sulphuric acid, or some *salzsaüer*, hydrochloric acid, etc. The plates are then carefully washed, to remove acid. For this purpose, it is always best to have large sinks and plenty of running, well-filtered water. Some of the factories filter their own water. The plates are then rubbed with hemp, sand, and sawdust; are dried and then run between two horizontally moving steel plates. (I deem the cold rolling, as, in fact, I deem the whole Teplitz system, described heretofore, as by far the best.) After this process, the plates are run through a

box or basin of melted fat (palm oil is believed to be best). Thence, they go into a basin of melted tin, on the top of which floats a layer of hot fat; thence, to another basin filled with better tin. Each plate is then rubbed off with an oily hemp brush and is dipped into a basin of the purest tin, on top of which is a layer of palm oil. This last basin is so hot that the surplus tin will easily drop off. Thence, the plates are carried to a cooling basin, where, after admitting air, they are left to cool gradually. On the bottom edge, always, is found a thick layer of tin (not in the Teplitz system; at least, I saw and learned nothing of such). To remove this, that part of the plate is dipped again into a basin of hot tin, in which it melts off, at least most of it does, and the rest is shaken off. The plates are then rubbed through bran (rye bran is best) and are ready for packing.

J. C. MONAGHAN,

CHEMNITZ, *July 11, 1894.* *Consul.*

COLOGNE.

Sheets are now generally made of soft steel produced either by the Martin-Siemens or by the Thomas and Gilchrist processes. Small quantities only are rolled from puddled bars.

Sheets are used for railway cars, boilers, tanks, shipbuilding, pipes, roofing, and all kinds of construction work, tin plates, galvanized plates, etc.

The size of the soft steel billets used is from 6 to 10 inches in width and 0.6 inch in thickness; that of puddled bars is from 3 to 6 inches in width and about 0.7 inch in thickness. The price of soft steel billets at present varies from $19 to $20.23 per 1,000 kilograms (2,204.6 pounds), and the puddled bars from $17.90 to $19 per 1,000 kilograms.

For thick sheets made from ingots or blocks, half-hard rollers are generally used. The number of rollings depends upon the thickness of the sheets required. For instance, ingots from 7.88 to 6 inches thick to be reduced to 0.19 inch and 1.18 inches thick, require from thirteen to eighteen rollings. Rolling mills consist of double rollers, rolling in one direction; of double rollers rolling *vice versa* by means of a double or treble reverting machine; of treble rollers, rolling *vice versa*. For thin sheets made from plates of 0.39 inch to 1.38 inches thick and from 5.9 to 9.85 inches broad, hard rollers are generally used. Sheets of 0.12 inch thick require from twenty to twenty-five rollings by double or treble rollers. For quite fine numbers, fifty rollings are required.

The number of men employed at each mill or each rolling stage varies from three to six. Foremen are paid, on an average, $1.43, and ordinary men from 72 to 95 cents per day.

Muriatic acid is used for special cleaning of the sheets, whereas the cinders are only shaken off.

WM. D. WAMER,

COLOGNE, *July 31, 1894.* *Consul.*

DUSSELDORF AND ESSEN.*

For the manufacture of white tin plates, sheets of fusion iron are mostly used, which are made of basic fusion iron, styled in England "mild steel." The use of forged iron sheets, which was more in vogue in former years, is now steadily disappearing and getting less every year.

Those black sheets, as prepared for the manufacture of the white sheets, do not serve merely the purpose just indicated, but are also used in the manufacture of various kinds of vessels and kitchen utensils, riveted or pressed metal pots, stoves for baking or cooking, besides being applied to the work of the tinsmith and the locksmith.

The billets used for the manufacture of the sheets are of various sizes and weights, according to the qualities and sizes of the sheets into which the flat bars made of these billets are to be rolled. For instance, a flat iron bar of, say, 6,000 by 200 by 8 millimeters (236.2 by 7.97 by 0.315 inches), to be rolled into larger sheets, will weigh about 75 kilograms (175.3 pounds) and be made from a billet of about 90 kilograms (198.4 pounds). The price—about 9.50 marks ($2.26) per 100 kilograms (220.46 pounds), will be 7.13 marks ($1.70). For the production of sheets of, say, 750 by 500 by 0.5 millimeters (29.5 by 19.7 by 0.019 inches), the bars are cut into pieces each of 750 millimeters (29.5 inches) length, which give, severally, four sheets weighing about 9 kilograms (19.84 pounds), and costing 86 pfennigs (19 cents). Such a flat iron bar, measuring 750 by 200 by 8 millimeters (29.5 by 7.97 by 0.316 inches), is generally known as *Sturz*, and will first be subjected to a preliminary rolling to 2.5 millimeters (0.098 inch), thickness and then, when it is cold again, it will be cut into four equal pieces, of which two are laid upon each other, made warm, and rolled to 1 millimeter (0.03937 inch). Then four of these *Stürze* are put upon each other, warmed, and rolled to 0.7 millimeter (0.0275 inch). These sheets, thus prepared, are again put together, warmed, and rolled to 0.5 millimeters (0.019 inch).

This is the way of manufacture of so-called "duo-rolling mills," which usually consist of a preparatory rolling mill and a finishing rolling mill, to which is frequently attached a slower so-called polishing roller.

A man roller, assisted by a young man or boy, is employed in front of each rolling mill and another couple behind the same; besides, there are persons attending the warming stoves.

A few concerns are working with "trio-rolling mills," under the Lauth system, which do not, however, produce the very thin grades.

The process of tinning is done by hand work, with the assistance of small machinery. None of the new patented tinning machines which were brought out a few years ago have come into general use. Their work is regarded as much inferior in quality to that which is done by hand. Nor

*Consul Lieber acknowledges his indebtedness to Mr. F. Asthorver, jr., consular agent at Essen, for much of the information contained in this report.

have any of the machines invented for the cleaning of the finished white tin plate been a success; consequently, the former method of cleaning the finished article by hand, with the aid of chalk and bran, has been taken up again.

German laborers working in the line of industry above described are generally regarded as skillful hands, though, in some respects, they are said not to accomplish as much as is done by laborers in the same line in Wales. They are, however, satisfied with comparatively small wages, differing according to the cost of living, etc., in the several parts of the country. In this portion of the Empire—the northern part of Rhenish Prussia—the first roller earns an average wage of 5 marks ($1.19) for eight hours' work. The same rate is paid to the head person attending the warming stoves. The less important hands receive from 3 to 4 marks (71 to 95 cents), while boys get even less than this.

P. LIEBER,
Consul.

DUSSELDORF, *August, 1894.*

FRANKFORT.

Tin plate (*Weissblech*) is manufactured in Germany by six firms, five of which are united in a trust or syndicate called the Weissblech Verkaufs-Comptoir, whose central office is at Cologne. The approximate annual product of these six manufacturers is as follows, the figures given being in boxes containing an average of 60 kilograms (132 pounds). The five firms first named in the subjoined list belong to the syndicate above mentioned; the sixth has thus far operated independently.

	Boxes.
Rasselsteiner Eisenwerks-Gesellschaft, near Neuwied	180,000
Westfälischer Union, Nachroth, Westphalia	120,000
Hüstener Gewerkschaft, at Hüsten, Westphalia	90,000
Gewerkschaft Grillo, Funke & Co., at Schalke	60,000
Les Petits-Fils de F. de Wendel, Hayingen, Lorraine	40,000
Dillinger Hüttenwerke, Dillingen on the Saar	60,000
Total	550,000

This is equal to 3,300 metric tons, and is nearly all consumed in Germany, besides which Germany imports largely from England, the imports of tin plate in 1892 having aggregated 4,378.6 metric tons, and those of 1893, 4,614.8 tons. British tin is used mostly at and near the seaports of Germany, while the domestic product is consumed in the interior.

The entire process of manufacturing and coating tin plate is performed in Germany by the makers above named. Nearly all the steel plate used for this purpose is made and coated in the same establishments. The tin used is, first, the 150 tons which are produced annually at Altenberg, in the Saxon Erzgebirge, and the remainder is imported, mainly from Banca and Australia. Official statistics show that of the 10,537.6 tons of block tin im-

ported into Germany during 1893, 5,506 tons came from Great Britain and the British colonies, 3,097 tons from Holland, 1,194 tons from the Dutch East Indies, and the remainder from Belgium and Austria-Hungary.

Returning to the specific inquiries of the Department, I have to report:

(1) *Sheets.*—All sheets used for tin plate in Germany are of mild steel (*Fluss-eisen*).

(2) *Ingots.*—The size of the ingots from which the plates are rolled is: Length, 31 to 32 inches; width, 6 inches; thickness, 4 inches. They are first hammered and rolled into rectangular bars, which are technically called in German *Platinen*. The size of these bars may differ somewhat, according to the thickness, width, and length of the sheets to be rolled from them. They vary from 8 to 12 inches in width and from four-sixteenths to thirteen-sixteenths of an inch in thickness. The present market price of *Platinen* is from $21.42 to $23.80 per metric ton (2,240 pounds) delivered at the works. This would be equivalent to $19.60 to $21.80 per ton of 2,000 pounds.

(3) *Rollings.*—The bars are rolled from four to six times, having first been heated to a dark cherry red. After this rolling, they are called plates (*Blätter*) and are then reheated to a dark red heat and again rolled from five to eight times, the sheet being doubled each time when it has passed the rolls. The package of sheets thus rolled together is then sheared to the required size and the sheets pulled apart. They are then ready for cleaning and coating.

(4) *Rolling mills.*—In rolling tin plates, a single-pair mill (*Duo-Walzwerke*) is used. The rolls are 20 and 22 inches in diameter, are run at about forty-five to fifty revolutions per minute, and are kept at a nearly dark-red heat when in operation.

(5) *Labor and wages.*—At the rolling mills two daily shifts of ten hours each are employed. The cleaning and coating departments work only one daily shift of ten hours. A plant which turns out during the year, say, 120,000 boxes, or 8,000 tons, of tin plate, employs about 480 men, boys, and girls, whose average wages are 3.25 marks (78 cents) per shift. These operatives are distributed as follows: Rolling and shears, five men at $1.90, $1.54, $1.19, and 47 cents; acid dipping, two men at 83 cents; annealing, three men at 83 cents, three boys at 47 cents, and three girls at 34.7 cents; dressing (cold rolling), five boys and five girls at 34 cents; coating, six men, viz, two at $1.42, two at $1.19, and two at 71 cents; packing, four men at $1.19 per shift.

(6) *Cleaning and surfacing.*—After leaving the rolling mill, the sheets are passed through two baths, called, respectively, the *Vorbeize* and the *Nachbeize*. The acid used in both baths is mostly crude hydrochloric (muriatic) acid, which is purchased at a strength of 20 to 22 Bé., and is diluted for the first bath with four to five parts of water, and for the second bath, with two parts water to one part of acid. Sulphuric acid is considerably more costly in Germany than muriatic acid, and is for that reason rarely used for cleaning tin plate. All acids used for this purpose must be quite

free from arsenic, or the process is spoiled. After passing through the first bath, the sheets are washed clean with water and are then dried and annealed. When entirely cool, they are passed from twice to four times through the rolls (cold rolled) and again annealed. They are then passed through the second bath, washed clean with water, and are ready for coating with tin. For each set of plates two kettles or caldrons of tin are employed. The coating process varies slightly at the different works, but these differences are only in minor details and are too technical to be described here. To those who are interested in the subject, all the different methods of coating employed in Germany will be found fully described in Die Technik der Weissblech Fabrikation, by Wilhelm Stercken, published in Verhandlungen des Vereins zur Beförderung des Gewerbefleisses, Berlin, 1887, Vols. VI and VII.

In all cases, the tin bath is protected from oxidation by a film of palm oil floating on its surface. After coating, the sheets are brushed and cleaned from adhering oil by rubbing with wheat bran, and are then ready for assortment and packing. The cleaning process is performed entirely by hand, no machinery of any kind being used.

FRANK H. MASON,

FRANKFORT, *June 23, 1894.* *Consul-General.*

KEHL.

In conformity with instructions for a report upon the methods used in this district for manufacturing the iron and steel sheets necessary for making tin plate, I have applied to the different manufacturers of iron, four in number, in this district and have the honor to transmit herewith the result of my inquiries. None of these manufacturers seems to prepare iron sheets for tin plate, and, to the best of my knowledge, there are no iron sheets made for said purpose in Alsace-Lorraine and Baden. The only company manufacturing iron and steel sheets that gives a few particulars, says:

> We only roll iron and steel sheets according to the Thomas system. In our rolling mills, we employ about five thousand workmen; these, however, do not make sheets only, but also bars (or rods) for the trade and profiled bars or rods.

This reticence on the part of the manufacturers seems to imply that they do not deem it expedient to divulge what they consider a trade secret.

EDWARD I. PRICKETT,

KEHL, *July 23, 1894.* *Consul.*

NUREMBERG.

After careful inquiry, I am satisfied that there are no manufacturers of sheet iron and steel for tin plate within the limits of this consular district. The principal works turning out goods of this kind in the German Empire are, I am informed, Dillinger Hüttenwerke, in Dillingen an der Saar, Rhen-

ish Prussia; Rasselsteiner Hüttenwerke, in Rasselstein, bei Neuwied am Rhein. Besides these, there are four other establishments in Germany, viz: Les Petits Fils de François de Wendel & Co., Hayange, Alsace-Lorraine; Hüstener Gewerkschaft, Hüsten bei Arnsberg, Westphalia; Westfälische Union, Nachrodt bei Letmathe, Westphalia; Gewerkschaft Grillo, Funke & Co., Schalke, Westphalia.

WM. J. BLACK,

NUREMBERG, *September 10, 1894.* *Consul.*

GREAT BRITAIN.

BIRMINGHAM.

I have delayed sending a reply to the Department's instructions in the hope that I might procure some information upon the subject of tin plates. My first inquiries led to the conclusion that there was no tin-plate industry anywhere within the limits of this consular district, as no establishments making this product were to be found in Birmingham proper. Inquiry at the agencies disclosed that there is one firm—Messrs. Knight & Crowther, near Kidderminster—who make a special kind of plate or sheet used in certain industries in the United States in small quantities, and that another firm in Stourport, near Kidderminster, also make iron and steel sheets, mostly the latter. At both places, the agent found that no questions would be answered, and no information whatever given, so that both he and I were forced to give up the quest.

Practically, the tin-plate industry, *i. e.*, the manufacture of plates to be afterward made into the tin of commerce, is confined to the immediate neighborhood of South Wales. I find that directories and other sources of commercial information are rather misleading, in that they classify the makers of tinware, known in the United States as tinsmiths, as tin-plate workers, thus leaving the impression that they are engaged in the making of tin plates instead of being what they are—mere workers in them after they have been manufactured.

GEORGE F. PARKER,

BIRMINGHAM, *August 28, 1894.* *Consul.*

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BRISTOL.

I forward herewith a pamphlet entitled The Rise, Progress, and Future of the Tin-Plate Trade of South Wales, written by Mr. James Lane Bowen, of Llanelly, Wales.* This pamphlet gained the prize offered at the Welsh Eisteddfod of 1891 for the best essay on the subject, and it contains many interesting historical and statistical details.

*Filed in Bureau of Statistics, Department of State. As the same ground is covered in the report of Consul Howells, of Cardiff, it is deemed unnecessary to print extracts.

I forward, also, answers to the questions conveyed in the Department instruction. The answers, obtained with some difficulty, come from three independent sources, and are distinguished as (*a*), (*b*), and (*c*). Though tersely expressed, they contain information that is usually guarded with the utmost jealousy.

The trade presents some peculiarities. It may be carried on in a reasonably prosperous time with a capital very small in proportion to output and annual turnover. The plant required is limited, and the steel and the tin may be bought, by the custom of the trade, on long credit—sometimes nine months, or, with the steel, a year. The sales of tin plate are "spot cash," and hence the manufacturer is money in hand long before his bills mature. These peculiar conditions, together with the facilities offered by the limited-liability acts for the gathering of capital, contributed to the overdevelopment of the industry in the prosperous times in the eighties. Now, the weaker concerns have been weeded out and the others hope for a steady and remunerative trade.

From the little history of Mr. Bowen it appears that this trade, which has so long flourished in Swansea, was only founded there after many discouragements and through much tribulation. Our American manufacturers are not behind the Welsh tin-plate workers of the past either in energy, intelligence, or perseverance; and they may feel encouraged to learn that a branch of industry, of which South Wales may be said to have almost the monopoly of the world, was not established firmly there until after many difficulties had been overcome and many years had passed by.

Metal used for sheets.—(*a*) Sheets are all steel and mostly Bessemer, iron having been superseded by steel for all qualities of plates; (*b*) chiefly steel, but iron is sometimes used; (*c*) when iron is used, it is in the form of sheets rolled from the best charcoal or coke bar.

Purpose to which sheets are put.—Roofing houses in America; canning goods of all descriptions, especially fruit, fish, and petroleum; manufacturing all kinds of utensils for general use.

Size of billet used and cost of same.—(*a*) Bars 7 inches wide, thickness as required, generally one-half to three-fourths of an inch, costing about £4 ($19.44) per ton; (*b*) sheets are of various sizes, rolled from steel bars costing from £4 to £4 2s. 6d. ($19.44 to $20) per ton; (*c*) 4 by 4 by 6 inches, at £4 per ton.

Rollings.—(*a*) From twelve to twenty times, according to thickness required; (*b*) according to thickness required—thin sheets might be rolled as many as twenty times; (*c*) sixteen, one billet making sixty-four plates, sheet leaves rolling four times size of plate and four thick, and is split after being sheared.

Kind of mills used to do rolling.—(*a*) Usual sheet mills, containing two pairs of chilled-iron rolls in each, and furnaces to suit; (*b*) they are called tin mills, two pairs of rolls to each mill, one set being the finishing pair; (*c*) three rolls, the plate being passed through and repassed.

Number of men at each stage of process and wages paid.—(*a*) One mill making black plate only would require about twenty men, but a four-mill factory making tin plates would require about two hundred hands (men, boys, and girls), whose wages, from bar iron to box, are about 2s. 9d. (66 cents) per box; (*b*) to each mill are assigned a roller man, a furnace man, a doubler, and a catcher, who are paid, by the box, respectively, 5¼d. (10½ cents), 2½d. (5 cents), 3d. (6 cents), and 1¼d. (2½ cents); (*c*) the average wages of adult hands (roller) run about £3 ($14.60) per week.

Special method used in cleaning and surfacing sheets.—(*a*) The finished black plate, after being cleaned or pickled in sulphuric acid, is immersed in a bath of molten tin and palm oil, and then passed through a set of small steel rollers of about 3 inches diameter, which distributes the tin evenly over all the parts, it then being cleaned in bran and finished off by dusting with a sheepskin glove, the finishing being done by girls; (*b*) surfaced through palm oil and metal (called black tin), then rolled in tinned rolls, then dipped in sharps to get the grease off, then rubbed with sheepskins to remove dust (terne plates are coated with tin-lead alloy—from one-third to two-thirds of lead); (*c*) sheepskin and bran.

LORIN A. LATHROP,
Consul.

BRISTOL, *August 16, 1894.*

CARDIFF.

In obedience to instructions, I submit a report upon the tin-plate industry of South Wales.

By way of preface, I desire to state that nothing short of a thoroughly minute investigation would enable one to obtain more than a mere elementary knowledge of the subject, because the peculiar interests of a combination of skilled trades are always guarded with jealousy; and when a monopoly is threatened by competition the task of obtaining extensive and reliable information necessitates a great deal of tact to avoid the treatment usually accorded to one who is adjudged guilty of prying into "the secrets of the workshop." To illustrate this, I may remark that strangers (and, least of all, Americans) are not permitted to enter the manufactories; and even among the workmen, there is an unwritten law which compels each one to confine his attention to the particular branch of work in which he is engaged, so that none but workmen trained in tin-plate works shall be competent to bring the necessary skill to bear upon the manufacture. On the other hand, the employers find competition so keen that each desires to surpass all others in perfecting the process of manufacture at a minimum cost.

I propose, before entering into details respecting the methods used, to touch lightly upon the history of the trade, and, if any apology were needed, I would point to the fact that the chief market is in the United States; and as our country keeps more than one-half of the Welsh mills running, the

consideration of the subject is invested with more than ordinary interest, which is enhanced by the recent publication of the British Board of Trade navigation returns, showing a falling away of $4,250,000 in tin plates alone during the half year ending June last.

History of tin plates.—Iron vessels coated with tin date back to the time of Pliny, and there can be no doubt that the Phœnicians trading out of Tyre conveyed tin for that purpose from Cornwall, and for that reason named the country Britannia. But the manufacture of tin plates takes us no further back than the sixteenth century, and it was not until 1665 that a syndicate left England for Saxony to discover the "tricks of the trade." One of the party—a Mr. Andrew Yanmanton—published a narrative of the circumstances which assisted and promoted the introduction of the tin-plate trade into England; and it appears that in consequence of one Hemming having obtained a patent in 1691, the actual manufacture was not commenced until 1720, the year of the "South Sea Bubble." Hemming was a sort of "dog in the manger," for he was unable to do anything himself and stood in the way of others who desired to commence the manufacture. At last, Maj. John Hanbury led the way in the year named at Pontypool, in South Wales, and eight years later he introduced sheet-iron rolling, which was then described as "the art of expanding bars by compressing cylinders." In the year 1745, the grease pot was first used for warming and preparing the iron to receive the coating of tin, and about that time mineral coal was first used as a substitute for charcoal in making the iron used; in 1806, barley meal as a medium for pickling was displaced by vitriol, and, in the following year, the "dandy fire" and the "brick-hollow fire" were introduced; in 1820, cast-iron annealing pots dispensed with the process of annealing in the open furnace; in 1849, black pickling by vitriol did away with scaling; and in 1866, Morewood's "patent rolling" marked a distinct improvement. In 1874, pickling machines were introduced generally; since then, a number of patents, of more or less importance, have been registered, but no change has effected so great a revolution in the trade as the introduction, in the year 1875, of the Siemens steel bars instead of charcoal bar iron, and that change "will always remain memorable in the history of the tin-plate trade." The difference lies not in the quality, as the charcoal-forged iron will make deeper "stampings" than steel; but this homogeneous ingot iron, classed (one hardly knows why) as "soft steel," gives three most important results of an advantageous character, viz, economy in the conversion of bar into tin plate, a lower percentage of waste plates, and a slight reduction in the weight of the coating metal—all of which means cheaper production generally.

It so happened that, at just the same time, "the general adaptation of stamping machinery from New York," to quote one of the leading manufacturers here, "enabled the tinsmiths to produce seamless covers and boxes at one blow; therefore, best plates took the place of material which was formerly employed for soldering work."

It is hardly necessary to enter into details in the description of the Siemens furnace, which is as well known in America as anywhere, but suffice it to say that the furnace is of cast-iron shell plates lined with silica fire bricks, and the bottom is formed by a thick coating of fused silica sand, the capacity of a convenient furnace being 10 tons of molten metal heated by a combination of gas with air, producing an initial temperature of nearly 4,000°. Iron having the smallest possible percentage of phosphorus and sulphur, is always used, and steel scrap is added, not so much to improve quality as to catch the strongest heat; and, when the melting process commences, rich Spanish ore is thrown in to eat up the carbon, and, at the same time, eliminate the silicon.

Sir Henry Bessemer claims that steel plates were first made about September 14, 1856, but there can be no question that efforts to introduce Bessemer steel were not successful until many years later, when the bars dropped in price to a figure which permitted their use as a substitute for puddled bar iron. The verdict of the trade is that Bessemer plates are not so reliable as those made by the Siemens process, and, consequently, are not so suitable for the higher grades of tinsmith's work, although quite good enough for all canisters devoted to "canned goods."

The steel and allied industries have become second in importance to steam coal only in South Wales, and the tin-plate trade is justly described as the national trade of the southern portion of this principality. Nearly all of the ninety odd works are grouped within a comparatively small area, and thus present a striking instance of the tendency of skilled manufactures to localize themselves. But the majority of these works are modern, for it is during the last quarter of a century that most of the growth in the trade was experienced, and it is nothing new to claim that this was brought about almost entirely by the enterprise of American merchants in creating the demand, which was all the greater because of the native ingenuity of our tinsmiths in producing an almost endless variety of handsomely finished articles, whether planished, stamped, or seamless, unequalled elsewhere save with American tools.

I find that, in the year 1884, there were altogether 97 works, with 396 mills, and that during the next year, 41 mills were added, thus raising the total to 401. But a short time prior to the good times indicated by this abnormal growth there had been one of the most severe of crises incident to a trade notorious for its fluctuations, and widespread misery had then been caused by the bankruptcy of three firms, whose liabilities amounted to nearly $2,000,000. But when, in 1884, steel came into use for the manufacture of plates instead of "coke bars," there was such a boom that, shortly afterwards, the top notch was reached, and neither a "stop-month" nor the "36-box" rule has been successful in preventing the ebb which set in and reached to an alarming extent during the first half of the current year. From the export figures quoted, it will be seen that the month of June last shows a falling away of £142,330, while for the half year the difference is no less than £873,392 ($4,249,925) in respect to the trade of the United

States. A slight increase obtains with regard to Holland, France, and Argentina, while Roumania and the East Indies are yet higher in comparison, and Australia nearly doubled its total for the previous half year, and a 50 per cent increase appears to the credit of "other countries." On the other hand, several countries, respectively, received less, notably Russia, Portugal, Italy, and Brazil, but the figures are trifling compared with those of the United States, whose decrease amounts for the half year to the enormous sum above mentioned. I use the word enormous advisedly, because the total exports for the period named are no more than £2,012,456. Usually, the home consumption is equal to about one-fifth of the exports and probably remains in the same ratio, judging from the state of trade generally.

I may say that, on every hand, "hope springs exulting on triumphant wing" that revival will set in as the result of the passing of the new tariff bill. Something is expected, too, from the direction of new markets, as the results of more spirited colonial enterprise, and, meanwhile, certain of the manufacturers have appointed resident agents in the United States, others having opened branch offices there for direct shipment of their wares, while a few of the leading firms have opened works in the United States for the tinning of black plates exported from this country.*

Mode of manufacture.—I have already shown that, several years since, iron was superseded by steel in the manufacture of plates, and, although iron is still used in certain works, the bulk of the output practically is made of steel, the proportion of iron consumed being scarcely worthy of mention. Where iron is used the reasons are of local explanation, since "soft steel" has been found so admirably suited for the purpose of producing smooth malleable sheets capable of withstanding all the usual tests. It may be of interest to note that at the port of Llanelly, the museum contains a sheet of iron rolled in 1863 down to a thickness of 0.0038 inch and at the Amsterdam Exhibition, twenty-five sheets 0.0024 inch of plate were on view. These figures demonstrate the fact that the sheets can be made thin enough for almost any purpose, and it is curious to note how multifarious are the uses to which they are already devoted, thanks chiefly to the canning industries. An American named Appert is credited with having discovered the art of hermetically sealing tin plates in the year 1836, but Englishmen claim that canning had been commenced eleven years previously by one of their countrymen—Mr. John Moise. Really, the history of tin-plate making within recent years is the history of the canning industries, for, nowadays, everything that needs packing free from air finds its way into some kind of can or "tin," and thus new industries have been created which add enormously to the commerce of the world and infinitely to the comfort of the home.

A peep into any well-equipped store is amazing because of the vast variety of viands and whatnot that are canned to-day compared with what obtained but a short period ago, and the numerous ingenious kinds of "tins"

* For later statements as to the tin-plate industry of Wales, see "Tin-Plate Trade of South Wales," CONSULAR REPORTS No. 175 (April, 1895), p. 591.

tell forcibly how mother necessity has been at work to so fashion hermetically sealed tins that they can open themselves, so to speak, because steel cutters are fixed in such a way that a little pressure in the right direction serves to cut the tin open.

Terne plates are seldom used for any other than roofing purposes, and nowhere else than in the United States, although I find that in the neighborhood of certain of the works frame cottages have been covered with terne plates; but the experiment was not considered satisfactory, the so-called "iron buildings" in this country being constructed of galvanized iron roofs and sides lined with pine, and even these are comparatively rare, because such buildings are usually intended for temporary purposes only.

Billets are not extensively bought, for the very good reason that they have to be reduced to bars 7½ inches by, say, one-fourth of an inch or more, as required, and varying in length from 100 to 120 feet, the difference between bars and billets being in their respective thicknesses and lengths, and not widths.

The prices quoted for Bessemer tin bars are from £4 1s. ($19.70) to a little higher sum per ton, and for Siemens £4 4s. 6d. ($20.56), all delivered to consumers' works in Wales. Usually, the bars are made in the various steel works, of which there are a goodly number scattered over the district, and the plant used is precisely the same as for steel rails, save that the rolls are, of course, different. The quality of the steel, however, is better and is determined by the lower standard of carbon, so that the steel, when cold, may be tougher than ordinarily.

Where billets are bought, they are reduced by several rollings in a pair of cogging rolls to bars which are worked through a double pair of rolls in being reduced to black plate of the size and substance required, the finishing rolls being in appearance similar to those used in paper mills, except that monster screws on the standards bring the rolls together until the sheet is produced according to gauge. The sheets are then pickled (to remove black spots) in vitriol, and are thus prepared for the process of "cold rolling" and for receiving a coating of tin; and the pickled sheets are placed in a pot filled with tin and palm oil. The sheets pass out between rollers coated with tin, and the wash man, at this stage, passes a large hand brush carefully over the surface of the sheets and clears away the superfluous semiliquid tin therefrom. They are then put into bran, dusted by girls, and taken to the assorters, who separate those to be branded as best sheets from the "wasters," which are usually sold at about 2s. per box below the price of primes. In addition to the patent tin-saving machine named after its inventor, Mr. Morewood, there are numerous patents for pickling, washing, and dusting, but a German patent is said to dispense with the need of acid, which is an expensive item, yet I am not aware of its being used. Before vitriol was brought into requisition, sour barley water was used, but that was not, by any means, so powerful an agent as sulphuric acid.

Wages.—The wages paid are generally in accordance with what is known as the standard of 1879, and where full time is worked the hands are in re-

ceipt of what is esteemed a "living wage," but that seems to apply to comparatively few of the works, because, in nearly all, there has, for some time past, been a restriction of output. The workmen's union conceived the idea that by each mill turning out 36 boxes only per turn, the general output would be reduced and the tendency would be to uphold the prices and, consequently, their own wages. This has led to disputes here and there, with the result that some half dozen of the works abolished the "36-box" rule, and, quite recently, the leading firm notified the men that the old system of "40 boxes per turn" must be reverted to. The men interested discussed the question with their union officials and ultimately agreed to work under the same conditions as the men in the half dozen works referred to. The reply of the employers was that this was all they desired, and there seems little room to doubt that as the manufacturers generally are experiencing hard times, and that many are losing money, the "36-box" rule will not always be adhered to by the majority.

Ordinarily, the mill hands include the roller, doubler, furnace man, catcher, shearer, bundler, opener and counter, weigher, pickler, and two boys. In the pickling department, a pickler, three scourers, and assorters are employed, and a gang of four or five men does the annealing for two or three mills, the average number of mills ranging between two and ten for each works. Seven boys or girls are usually employed in sorting black plates, and one tinman, a wash man, a raiser, two rubbers, and one duster in the ordinary tinning process, and, finally, assorters and packers and laborers, who attend to the loading.

I append tables showing the wages paid and the cost of manufacture. It will be understood that although the wage rate of the skilled workmen would be the same everywhere, local conditions, in various ways, affect the cost of producing tin plates.

Wages paid, per 100 boxes, in tin-plate works.

Mills.					Tin house.				
Employment.	Wages.				Employment.	Wages.			
	£	s.	d.			£	s.	d.	
Roller (fixed)	1	8	6	$6.94	Turner	1	5	0	$6.08
Doubler (fixed)	1	2	11	5.59	Washer	1	5	0	6.08
Furnace man (fixed)	1	1	6	5.23	Greaser	0	8	4	1.97
Behinder (fixed)	0	10	5	2.53	Rubber	0	6	6	1.58
Shearer (fixed)	0	9	0	2.19	Duster	0	5	6	1.34
Opener (average)	0	7	0	1.70	Assorter	0	7	2	1.74
Engineman (average)	0	4	0	.87	Boxer	0	4	0	.97
Pickler (average)	0	8	3	1.95	Laborer	0	4	9½	1.16
Annealer (average)	0	6	4	1.54	Oven man	0	4	0	.97
Cold roller (average)	0	8	4	1.97	Handler, etc	0	3	5½	.84
Bundler (average)	0	3	2½	.77	Weigher	0	1	4	.32
Roll turner (average)	0	4	0	.97	Millwright and smith	0	2	8	.65
Furnace builder (average)	0	2	0	.48½					
Total average cost per box	0	2	4	.57					

Tin and terne plate manufactures (based on 100 boxes, 14 by 20).

	Tons.	cwts.	qrs.	lbs.*
Weight of bars	5	17	2	12
Waste in reducing bars to sheets (effects of oxidation and acid)	0	4	0	0
Waste by scrap	0	17	0	0
Tin consumed by tin plates	0	2	2	20
Tin consumed by terne plates	0	1	1	10
Lead consumed by terne plates	0	1	1	10
Coal and coke	7	10	0	0
Vitriol	0	7	0	16
Palm oil	0	1	0	2

Brands.

	Cwts.	qrs.	lbs.
IC†	1	0	0
IX†	1	1	0
IXX†	1	1	21
IXXX	1	2	14
IXXXX	1	3	7
IXXXXX	2	0	0
IXXXXXX	2	0	21

Imports of tin in blocks, ingots, bars, and slabs into the United Kingdom during the first six months of the years 1892, 1893, and 1894.

[Reduced to American weights and currency in the Department.]

Whence imported.	Quantities.					
	1892.		1893.		1894.	
	Cwts.	Tons.	Cwts.	Tons.	Cwts.	Tons.
Straits Settlements	207,101	11,598	258,427	14,472	296,787	16,620
Australasia	46,647	2,612	47,410	2,655	52,105	2,918
All other countries	21,209	1,188	33,619	1,882	33,757	1,890
Total	274,957	15,398	339,456	19,009	382,649	21,428

Whence imported.	Value.					
	1892.		1893.		1894.	
Straits Settlements	£949,634	$4,620,919	£1,193,679	$5,808,442	£1,057,638	$5,146,466
Australasia	213,492	1,038,851	217,872	1,060,165	187,100	910,429
All other countries	91,278	444,159	147,636	718,397	115,032	559,746
Total	1,254,404	6,103,929	1,559,187	7,587,004	1,359,770	6,616,641

As will be seen by the above statement, most of even the block tin is imported; hence, comparatively small quantities are now produced at the old Cornwall mines.

*1 ton=2,240 pounds; 1 cwt.=112 pounds; 1 quarter=28 pounds.

†Wage rate for producing these brands is the same, and is doubled for the remaining brands.

Working expenses in tin-plate works (average cost of production per box).

Description.	Cost.		Description.	Cost.	
	s. d.			s. d.	
Steel bars	4 3	$1.03	Stoves, gas, etc	0 2	$0.04
Tin	2 4	.56	Rent, etc	0 0¾	.01½
Wages	2 4	.56	Castings	0 1½	.03
Coal	0 3½	.07	Management	0 1¼	.02½
Boxes	0 3½	.07	Annealing pots	0 0½	.01
Palm oil	0 3	.06	Average total cost	10 5¼	2.65½
Sulphuric acid	0 2¾	.05½			

Value of tin plates exported from Great Britain during the month and half year ending June 30, 1894, compared with the same periods in 1892 and 1893.

Whither exported.	Month ending June 30—			Six months ending June 30—		
	1892.	1893.	1894.	1892.	1893.	1894.
Russia	£34,781	£21,570	£13,251	£203,914	£187,669	£128,725
Germany	4,528	5,365	3,599	28,283	24,705	24,364
Holland	4,174	9,039	4,098	28,929	33,565	34,789
France	7,858	9,408	7,781	79,985	65,639	69,212
Portugal	4,421	6,980	1,555	31,364	43,465	16,490
Italy	3,264	2,960	3,186	50,352	25,870	17,355
Roumania	9,981	10,216	5,633	41,383	29,509	52,300
United States*	311,912	351,820	209,490	1,928,372	2,103,255	1,229,863
Brazil	8,083	6,145	5,983	44,141	36,783	23,572
Argentine Republic	4,697	2,032	4,285	17,844	20,055	21,195
British East Indies	3,441	6,370	6,074	35,111	36,446	42,235
Australasia	6,483	8,484	14,607	61,356	41,239	81,382
British North America	26,255	28,534	14,166	110,793	89,215	85,962
Other countries	29,215	27,913	22,788	162,215	129,389	185,012
Total	459,093	496,886	316,496	2,824,042	2,866,804	2,012,456
Total in American currency	$2,233,946	$2,427,417	$1,540,070	$13,741,783	$13,949,868	$9,792,611

*The exports to the United States during the month of June, expressed in American currency, were as follows: In 1892, $1,518,764; 1893, $1,711,956; 1894, $1,019,378. For the six months ending June 30 the exports were: In 1892, $8,883,458; 1893, $10,234,438; 1894, $5,984,413.

The tables setting forth the cost of production prove it to be about as low as it possibly can be, and, although the freight and Government tariffs add considerably to the original cost, and thus enhance the selling price in the United States, the difference is hardly equal to the disparity between the charges for labor in South Wales compared with the United States. Although, within the gas belts of the United States, fuel is practically costless, the difference is not met even there. The roller, who is the highest paid workman, can earn here about $2.60 per day, while for similar work in the United States he would demand much more; and, allowing that the comparison would prove lower in respect to the other workmen, the total wages bill would, I fear, be not less than double!

ANTHONY HOWELLS,

CARDIFF, *July 24, 1894.* *Consul.*

GLASGOW.

With reference to the methods used in the manufacture of sheet iron and steel in this consular district, I find a great unwillingness on the part of manufacturers to furnish any information as to their business methods or wages paid to their employees, as they seem to suspect that such information is for the use of our manufacturers at home, who are their competitors.

After diligent inquiry in Glasgow, I learned that no sheets of this kind were manufactured in the city, but that there were manufactories in Coatbridge and Glengarnock, in this consular district. I thereupon instructed Mr. Andrew McMurray, consular agent at Troon, to investigate the matter and report to me. From him I learn that the manufactory at Coatbridge was removed some time ago, and that there is none at Glengarnock or anywhere else within this consular district.

ALLEN B. MORSE,
Consul.

GLASGOW, *October 10, 1894.*

LIVERPOOL.

With one exception (the works being now closed), there are no manufacturers of sheet iron and steel in this district, the industry being centered in South Wales and Birmingham. I have submitted the interrogatories inclosed with your instruction to dealers and agents of manufacturers, and the following replies are based upon the information furnished by them, which I am afraid will be found rather scanty:

(1 and 2) Steel is the article used almost exclusively, Bessemer quality for the ordinary tin plate and Martin-Siemens for plates that are used for stamping or putting into various utensils.

(3) The black plates are rolled from bars specially made, and the size of the bar depends on the size of the plates to be produced, the size being carefully calculated so as to produce the minimum of waste.

(4) The plates are repeatedly doubled in the mill; the greater the thinness required, the more frequent the doubling and redoubling, so that the number of rollings is according to the thinness of the plate to be produced. When the pile is rolled down to the required thinness, it is sheared to the rectangular size required and the layers or laminations are separated one from the other.

(5) The mills are similar in construction to sheet mills, but the rollers are smaller.

(6) One man and one boy at other side of roll are employed. Wages are by results, a skilled laborer not infrequently earning £4 to £6 ($19.46 to $29.20) per week.

(7) Close annealing removes a portion of the scale, immersion in acid completes the cleaning of the surface, and rolling in "chilled rolls" of very highly polished surface gives the requisite smoothness to the plates to cause them to come from the tinning pot with a brilliant coating.

JAMES E. NEAL,
Consul.

LIVERPOOL, *July 12, 1894.*

SHEFFIELD.

On careful investigation, I find that iron and steel sheets for the tin-plate industry are not, at present, manufactured in this district. There is one firm which, I think, has recently engaged a little in the trade, and to my inquiry replied as follows:

We are unable to answer your questions, as some of them are business secrets which it would be entirely out of place for us to divulge.

The materials used in the manufacture of these sheets are of a very cheap character, and the geographical situation of Sheffield is such as to prevent manufacturers here from competing successfully with others in and around the districts where tin plates are produced. Cardiff, Swansea, and Newport are the principal places of manufacture; sheets are also manufactured in the neighborhood of Birmingham and Wolverhampton. The Ebbw Vale Steel, Iron, and Coal Company (limited), Ebbw Vale, Wales, as far as I am able to learn, are the chief manufacturers.

BEN. R. BEDLE,
Consul.

SHEFFIELD, *July 10, 1894.*

SWANSEA.

For the purposes of this report, the black plate, which is the basis of the standard size of tin plate commercially designated as "IC 14 by 20 inches, 108 pounds per box, 112 sheets per box," is taken as an example. At present, most plates sent to the United States are lighter than 108 pounds per box, the average weight being approximately 90 to 95 pounds per box, though still lighter plates, some being as light as 60 pounds, and designated as "taggers," are largely shipped. Though the old-time designation "IC" (iron common) is still generally used, it is misleading, as plates are no longer made of iron, steel being practically the only material used.

The billets used for making tin plates are of special shape and size. On the 10th of this month, the published market prices were: Bessemer steel tin-plate bars, $19.46 to $20.06 per ton of 2,240 pounds; Siemens tin-plate bars, best, $20.06 to $20.66; seconds, $19.46 to $20.06. These prices are for bars delivered in the district and are subject to a discount of 2½ per

cent. Tin-plate bars are usually 7¼ to 8 inches wide, one-half to 1 inch thick, and 20 feet long.

At the rolling mills, these bars are cut into pieces a foot or two long, the size depending on the thickness of plates to be made. The mills are of the ordinary four-roll pattern. The space between the rolls and the pressure on the sheets while being rolled is regulated by screws. The rolls move continuously at a speed of forty or fifty revolutions a minute. For its first passage through the rolls, the steel is heated red-hot; then, the sheet is doubled together and reheated, this time to a brown or "worm" heat, and rolled again; then, the sheet is doubled a second time, and reheated and rerolled, there being eight thicknesses of metal at the last rolling. Care is necessary in the reheatings after the sheet has been doubled, for if the metal is too hot, the sheets will stick together. Usually, the metal is reheated and rerolled once before the first doubling, making four heatings in all, and the sheet is passed through the rolls three or four times with each heating.

At each mill, four men are employed. They are a roller man, who is in charge of the mill and who receives 83 cents per dozen finished plates; a doubler, who receives 66 cents per dozen; a furnace man, who receives 58 cents a dozen; and a "behinder," usually a well-grown lad, whose work is to pass the sheets back over the rolls to the roller man; he receives 18 or 20 cents a dozen.

After being trimmed and squared by steam shears, the rough black plates are separated by women, called "strippers," who are paid at the rate of 18 cents a dozen. In many small works, the man in charge of the steam shears is also the weigher. For shearing, 26 cents per dozen plates is paid, and the weigher's wages are usually $1.09 a day. The plates are not counted, the number made being accurately estimated by weighing when the plates have been separated by the strippers.

The next process is called "black pickling." The rough black plates are placed in "cradles" by girls, who are paid from $1.70 to $2.50 per week. In these cradles, the plates are placed in a patented pickling machine or bath, which shakes the cradles so that all parts of the plates are exposed to the action of the acid. The pickling solution is made by diluting "pure pickle"—a sulphuric acid solution of a specific gravity of 1750—with about an equal volume of water. The pickler, who has charge of this work, is paid from $9.73 to $14.60 per week. The plates are left in the pickling solution until thoroughly cleansed and bright, and are then annealed in cast-iron boxes. Annealers are paid $2.55 per 100 boxes of 112 sheets. The cold-rolling process follows, the plates being passed one at a time between highly polished and hardened steel rolls revolving at the rate of about 100 revolutions a minute. This work is done by boys, who receive from $1.70 to $2.43 per week, the plates being brought to them and carried away by other boys who are paid about $1.50 a week. The plates are usually passed through the cold rolls four times, and the tremendous pressure exerted on them by the rolls is indicated by the fact that the plates are stretched one-fourth of an inch during the process. After the cold rolling, the plates are

again annealed and pickled, being kept under water from the time they are taken out of the pickling bath the second time until they are plunged into the hot oil at the tinning pots, this being the first step in the process of coating. After being coated with tin or terne, the plates are polished by girls, who rub them with bran, and then packed in boxes for shipment.

DAVID C. DAVIES,
Commercial Agent.

SWANSEA, *July 13, 1894.*

RUSSIA.

ST. PETERSBURG.

I transmit herewith a brief report on sheet iron as far as is warranted by information received from reliable sources. I have been trying to gather some details about the manufacture of heavy sheet iron in the Ural Mountains, but so far without success. If my endeavors in that direction should be successful, an additional report will be made.

There is no sheet iron or steel manufactured in this consular district, and no sheets for the purposes of the tin-plate industry are manufactured in the Russian Empire. Black sheets of that description are imported from Wales, and they are simply coated with tin in the Russian factories. Imported black sheets are subject to a duty of 64 copecks per pood (about one cent per pound in gold); tin plates pay a duty of 1 ruble 70 copecks per pood (2⅓ cents per pound in gold).

In the Ural Mountains, on the eastern border of European Russia, roofing sheets are largely manufactured of the regulation size of 1 by 2 arshines (2⅓ by 4⅔ feet). They are of excellent quality and cheap, and, in former times, were largely exported; but now, the export of Russian sheet iron is very small, because good sheet iron is made in many other countries. An attempt is being made to introduce the manufacture of sheet iron for the purposes of the tin-plate industry in St. Petersburg, and a factory has been in process of construction on Vassili-Ostrov for the last two years; but the impression prevails that the experiment is destined to prove a failure.

CHARLES JONAS,
Consul-General.

ST. PETERSBURG, *September 1, 1894.*

WARSAW.

As the result of inquiries concerning the materials and methods used in the manufacture of tin plates, I learn that all the sheet iron used in their manufacture is imported from England.

JOSEPH RAWICZ,
Consul.

WARSAW, *July 19, 1894.*

PROVINCIAL DEBTS OF THE ARGENTINE REPUBLIC.

The subject of consolidating the debts of the different provinces of the Argentine Republic and issuing therefor national bonds is now occupying the attention of Congress. As the inclosed bill, submitted by the Minister of Hacienda—Dr. Terry—has passed the Chamber of Deputies,* a brief sketch of the subject may be of interest.

The foreign gold debt of the different provinces, including past-due interest, will stand, on December 31, as follows:

Provinces.	Amount.	Provinces.	Amount.
Buenos Ayres	$50,532,910	San Luis	$927,068
Córdoba	23,294,651	Catamarca	3,217,964
Santa Fé	20,081,955	San Juan	2,064,420
Entre-Rios	16,380,034	Tucuman	3,051,756
Corrientes	6,309,183	Total	131,685,829
Mendoza	5,825,888		

A considerable part of this debt was created in starting the different provincial banks under the guarantied banking act of November 2, 1887. The proceeds of the bonds sold abroad under this act were paid to the General Government, which issued to the provincial bank of the province as its capital an amount of paper money equal to the amount of gold received from the sale of the bonds of that province. In addition, the Government issued to the province 4½ per cent gold bonds for the same amount, but held these bonds as security for the paper money issued to the provincial bank, paying the interest, however, to the province. By the terms of the banking act, the resources of the provincial banks were pledged as security for the payment of the provincial bonds, thus making the National Government secondarily responsible to the foreign bondholders in the amount of the bonds issued to the different provinces, as follows:

Provinces.	Amount.	Provinces.	Amount.
Santa Fé	$10,805,652	Catamarca	$2,390,400
Entre-Rios	6,980,400	San Juan	1,656,000
Corrientes	3,163,500	Tucuman	3,714,285
Mendoza	3,000,000	Total	32,340,237
San Luis	630,000		

The interest on the provincial bonds varies from 5 to 6 per cent, and, in many instances, has lapsed since 1890, at which time all the provincial banks collapsed.

It will be seen that, for the gold dollar thus handed to the Government by the provinces, they received in return a paper dollar, then, I believe, at

*Since the above was written, the bill has become a law.

par, but worth now about 27 cents; so that to pay their debts, the provinces would be obliged to pay at this time more than three and a half times the amount they received.

The plan of the Minister of Hacienda is understood to contemplate the issue of national 3 per cent gold bonds for the face value of all provincial bonds, retiring them and the national bonds held by the provinces under the banking act. The method by which the Government proposes to secure itself for such an issue or provide for their payment or the plan by which the people of those provinces which have no foreign indebtedness are to be relieved from being obliged, under such a scheme, to help pay the debts of those provinces which borrowed these great sums, is not mentioned.

WILLIAM I. BUCHANAN,
Minister.

BUENOS AYRES, *December 29, 1894.*

FEDERATION OF THE AUSTRALIAN COLONIES.

The federation of the Australian colonies is one of the most important questions of the day, as such union would result in bringing about a more national feeling than I think exists here at the present time. "In union there is strength" is certainly applicable to Australasia, and the wonderful progress of the United States has had its influence in drawing the attention of not only the statesmen, but also the majority of the people of these colonies, to the advantages of being united under one government, each colony working for the common good of the whole, instead of being antagonistic to each other, as they seem to be at the present time. The late Hon. J. B. Lang, in one of his works, speaks of the federation of the Australian colonies under a separate and independent government as "the coming event." Be this as it may, whenever the question of federation is referred to by any of the leading journals or politicians of the colonies, I have not learned of an argument advanced against the proposal to create an united Australasia, and even politicians who hold opposite opinions on other questions usually agree on the desirability of federation as a broad principle, and in conversation I have frequently heard the statement made that it is only a question of time before it will be an established fact. But, unfortunately, the subject is allowed to rest until some new necessity arises to again bring the matter before the people with perhaps stronger force than on the previous occasion.

The objects of federation are usually based on the following considerations: (1) To provide more powerful defense against enemies of the colonies; (2) to secure a more economical form of government; (3) to stimulate advancement in the various industries.

The want of cohesion on the part of the separate colonies has been the great stumbling block in the various federal councils, as the following obsta-

cles must be considered: (1) The inequalities in the tariffs of the different colonies, and (2) the unequal indebtedness of the separate colonies.

The first of these obstacles is the most difficult to overcome, as the colony of Victoria, with a high protective tariff, will naturally desire a continuation of the present customs duties on all imports from the outside world into federated Australasia, while New South Wales, with strong free-trade proclivities, will ask for a reduction in the tariff. These difficulties, I think, can be met as soon as the people of the separate colonies become alive to the necessity for federation, and the frequent agitation on this subject shows that there is a strong majority in favor of such unity.

The other difficulty to be overcome is the unequal indebtedness of the separate colonies. I append a table, taken from Hayter's Victorian Year Book, giving the indebtedness of each colony on the 31st of December, 1892:

Colony.	Indebtedness.	Colony.	Indebtedness.
Victoria	$212,368,692.25	West Australia	$7,852,555.20
New South Wales	237,346,743.20	Tasmania	34,021,409.51
Queensland	143,353,142.61	New Zealand	188,397,145.42
South Australia	102,845,204.45		

In order to better appreciate the magnitude of these obligations, I also give a table, taken from the same source, showing the amount of indebtedness per head:

Colony.	Indebtedness.	Colony.	Indebtedness.
	Per head.		*Per head.*
Victoria	$183.44	West Australia	$147.36
New South Wales	203.67	Tasmania	222.92
Queensland	349.35	New Zealand	297.11
South Australia	315.68		

This difficulty could, I think, be met by each of the colonies of federated Australasia assuming its own indebtedness and gradually paying the same.

As early as the year 1849, a federal union of the Australasian colonies was felt to be highly desirable, and in the report of the committee of the privy council, May 1, 1849, the desirability of creating some authority competent to act for all the colonies jointly was forcibly pointed out, and a petition was suggested, praying the Crown that one of the governors of the Australian colonies should hold a commission constituting him governor-general of federated Australasia. I make the following extract from the report:

We think the governor-general should be authorized to convene a body to be called the general assembly of Australasia. We recommend that the general assembly should consist of the governor-general and a single house, to be called the House of Delegates, the House of Delegates to be composed of not less than twenty nor more than thirty members. These

delegates should be elected by the legislatures of the different Australian colonies. We purpose to limit the range of the legislative authority of the general assembly to ten topics, which we proceed to enumerate:

(1) The imposition of duties upon imports and exports.

(2) The conveyance of letters.

(3) The formation of roads, canals, or railways traversing any two or more colonies.

(4) The erection and maintenance of beacons and lighthouses.

(5) The imposition of dues or other charges on shipping in every port or harbor.

(6) Establishment of a general supreme court, to be a court of original jurisdiction or a court of appeal for any of the inferior courts of the separate provinces (colonies).

(7) The determining of the extent of the jurisdiction and the forms and manner of procedure of such supreme court.

(8) The regulation of weights and measures.

(9) The enactment of laws affecting all the colonies represented in the general assembly on any subject not specifically mentioned in the preceding list, but on which the general assembly should be desired to legislate by addresses for that purpose presented to it from the legislatures of all those colonies.

(10) The appropriation to any of the preceding objects of such sums as may be necessary, by an equal percentage from the revenue received in all the Australian colonies, in virtue of any enactments of the general assembly of Australasia.

For some unexplained reason, the federation movement then remained at a standstill until 1853, when a report was made by Mr. Wentworth, chairman of the select committee of the legislative council, in which he asks for about the same powers as those specified in the preceding report, but makes additional suggestions in regard to penal settlements and gold regulations. No action was taken on this report, and the federation movement languished until the 16th of January, 1857, on which date the legislative assembly of Victoria appointed a select committee to inquire into and report upon the necessity for a federated union of the Australasian colonies for legislative purposes. This committee met and deliberated on the 10th and 26th of February, and a further meeting was held on the 9th of July following. At this meeting, the chairman was instructed to prepare a draft of a report which was considered and adopted at an adjourned meeting on the 8th of September. This report was transmitted to the other colonies. In South Australia, the two houses adopted a resolution accepting the proposal and recommending the appointment of delegates, and two were selected from the assembly and one from the council to represent that colony at the conference. In New South Wales, the legislative council adopted a report making a similar recommendation, but this colony, although at first acceding to the proposals contained in the report adopted by the conference, afterwards raised an objection which was the means of retarding united action, and, consequently, no further step was taken in the matter until February 7, 1860, on which date negotiations were renewed, and it was recommended that Queensland be requested to send delegates to a proposed conference to be held in Melbourne, but I can not learn that any such conference was held. The initiative in the federation movement was next taken by the colony of Tasmania. In September, 1861, its parliament passed a resolution praying that the governor cause communication to be opened with the governments of the several

Australian colonies urging that steps be taken to establish a federal assembly. This conference met in Melbourne in March, 1862, but the subject of Australian federation was not taken into consideration, and the subject was permitted to lapse until 1870, when a new committee was appointed on a motion of Mr. Duffy (now Sir Charles Gavan Duffy), to whom the colonies are greatly indebted for his persistent efforts to keep the subject of federation before the people. This commission met in Melbourne, and on the 3d of October of that year submitted a report to His Excellency the Viscount Canterberry, K. C. B., governor of Victoria. The report set forth the following recommendations: (1) The advantages of a federal Union, (2) the best means of effecting such union, and (3) neutrality of the colonies in time of war.

This commission promised a second report, together with a draft of a bill, but, owing to a want of harmony between the colonies, this was never issued. In the following year (1871), the Government of Victoria, in order to keep the matter alive, caused the original report to be circulated, together with the opinions of some of the leading men of the colonies. Conferences of intercolonial interest were held from time to time, and a large number of important subjects were discussed, including a uniform tariff, a general Australian court of appeal, and such other matters as were considered of vital importance to the prosperity of the federated colonies.

These conferences were strengthened in 1880 by the addition of delegates from Queensland, Tasmania, West Australia, and New Zealand. All these colonies, with the exception of West Australia, agreed to a strong protest against the action of the Government of that colony in encouraging Chinese immigration. The Imperial Government, however, declined to interfere, and the conference itself failed to agree upon the terms of a federal council bill.

In April, 1883, part of the island of New Guinea was annexed by the Queensland Government, which action was approved by all the Australian colonies, but was declared by the British Government to be null in point of law and not to be admitted in point of policy. On the 2d of July, Lord Derby, in his dispatches, recommended a confederation of the colonies of Australasia. Acting on this advice, a convention was held in Sydney toward the close of the year, at which all the seven colonies of Australasia were represented and succeeded in producing definite results. The incentives which brought about this meeting were the apprehended designs of the French Republic in connection with the New Hebrides, and the action of the Queensland Government in opposition to the same. The chief importance of the convention to the colonies is that it agreed to the terms of a federal council bill, which, with certain alterations and after some delays, became the law of the Empire, and in August, 1885, the "federal council of Australasia act, 1885" received the royal assent. This act provides that there shall be a federal council when four of the Australasian colonies shall have agreed to join it as provided by the act, but any colony which has once joined may

withdraw at pleasure, though such colony must remain subject to the federal legislation which affected it, as a member of the council, until such legislation is altered or repealed by the council itself. Each self-governing colony is entitled to send two representatives to the council and each Crown colony one. The manner of choosing the representatives is left entirely to the parliament of the colony sending the same. The authority of the colony is almost purely legislative and extends to the following matters: The relations of Australasia with the islands of the Pacific; the prevention of the influx of criminals; fisheries in Australasian waters beyond territorial limits; the enforcement of criminal and civil processes beyond the limits of the colony in which they are issued; questions relating to any two or more colonies or their relations with one another which the governors of those colonies, upon an address of the legislatures of such colonies, shall refer to the council; every bill, however, passed by the council must be presented to the governor of the colony in which the council is sitting for the royal assent, and he may assent, refuse, or reserve the measure, or suggest amendments to it.

The federal council act was adopted by Victoria as from the 9th of December, 1885, and the statute provides that the representatives of Victoria in the council shall be appointed and removed by the governor in council.

The necessary preliminaries having been complied with, the federal council held its first session in Hobart, Tasmania, in January, 1886. The colonies of Queensland, Tasmania, West Australia, and Fiji were represented. At the second session, held in 1888, Fiji was not represented. At the third (1889), Fiji was still unrepresented, but South Australia sent delegates. At this session, Victoria referred to the federal council the following subjects: (1) The laws relating to letters patent; (2) the naturalization of aliens of European descent; (3) the status of corporations and joint-stock companies; (4) the recognition in other colonies of orders and declarations of the supreme court in matters in lunacy; (5) the compulsory production to the supreme court of documents or property required for the purposes of proceedings in the supreme court of any other colony.

The most unfortunate feature in regard to these federal councils is that they are not clothed with sufficient authority to act as a legislative body, and, at present, they can only be regarded as a step in the direction of a federal union.

Up to the year 1890, the colony of New South Wales declined to send representatives to the federal councils which were held in Hobart, but in February of that year, at the instigation of Sir Henry Parkes, a federal conference was held in Melbourne, and, after debate, the following resolutions were passed:

(1) That, in the opinion of this conference, the best interests and the present and future prosperity of the Australian colonies will be promoted by an early union under the Crown; and, while fully recognizing the valuable services of the members of the convention of 1883 in founding the federal council, it declares its opinion that the seven years which have since elapsed have developed the national life of Australia in population, in wealth, in the discovery of resources, and in self-governing capacity to an extent which justifies the higher act, at all

times contemplated, of the union of these colonies under one legislative and executive government, on principles just to the several colonies.

(2) That to the union of the Australian colonies contemplated by the foregoing resolution, the remoter Australasian colonies shall be entitled to admission at such times and on such conditions as may be hereafter agreed upon.

(3) That the members of the conference should take such steps as may be necessary to induce the legislatures of their respective colonies to appoint, during the present year, delegates to a national Australasian convention, empowered to consider and report upon an adequate scheme for a federal constitution.

(4) That the convention should consist of not less than seven members from each of the self-governing colonies, and not more than four members from each of the Crown colonies.

These resolutions were ratified by the parliaments of all the Australian colonies, which, in pursuance thereof, each appointed seven members to attend a "national Australasian convention," which was held in Sydney on the 2d of March, 1891. The delegates were instructed and authorized to consider and report upon an adequate scheme for a federal constitution. As West Australia had been granted responsible government since the Melbourne conference was held, each Australian colony was represented by seven delegates. New Zealand, at the time, did not desire to join the proposed union, but her ultimate adhesion was provided for by the clause referring to the "remoter Australasian colonies." As a matter of courtesy, she sent three delegates to the Sydney convention.

It will be seen that the Australian parliaments have affirmed the following propositions:

(1) That it is desirable there should be a union of the Australian colonies.

(2) That such union should be "early."

(3) That it should be "under the Crown."

(4) That it should be "under one legislative and executive government."

(5) That it should be on "principles just to the several colonies."

And that the "warrant" to the delegates at the Sydney convention precluded their discussion of these points, except so far as definition and explanation was concerned.

This national convention met in the hall of the legislative assembly, Sydney, on the 2d of March, 1891, and by a unanimous vote elected Sir Henry Parkes as president and Sir Samuel Griffith as vice-president.

The first question which was the subject of debate was that of states' rights, and some of the delegates who were, during the earlier sittings of the conference, in favor of the Canadian system, after debate recognized that it must be abandoned, as one and all objected to the federal government delegating power to the states (or colonies) instead of the states retaining all powers except such as they chose to surrender to the federal government. A very strong objection was taken to the federal veto, as it was believed that the legislatures of the separate colonies would refuse to make such concession. On this question it was seen there were two parties in existence, one being led by Sir Henry Parkes, of New South Wales, and Mr. Munro, of Victoria, who admitted that while the states must be sovereign as regards the manage-

ment of their own affairs, contended that the absolute control belonged to the national government which each state surrendered, finally and absolutely. The other party, led by Sir Samuel Griffith, of Queensland, and Sir John Downer, of South Australia, affirmed that each state not only retained control over its own affairs, but in surrendering certain powers to federated Australasia it did so, not to a nation, but to a federation. In this connection, three questions were argued—the first in regard to the senate and its powers, the second as to whether "responsible" or party government should be formally recognized, and the third was in regard to the tariff.

These questions were referred to three committees who were appointed to draw up a constitution. The first was the constitutional or general committee, and to it the other committees made their report. The other two committees were, first, the finance, and, second, the judiciary. The powers of the senate and the question of states' rights were the great stumbling blocks; but an agreement was finally arrived at, and Sir Samuel Griffith, of Queensland, was appointed to draw up the bill.

The convention reassembled on the 31st of March, and the constitution bill was at once presented by Sir Samuel Griffith. I append an extract from a digest of the bill taken from Mr. Howard Willoughby's work, entitled Australian Federation:

The legislative power is vested in a federal parliament, to consist of Her Majesty, a senate, and a house of representatives.

The Queen may appoint a governor-general, whose salary shall not be less than £10,000 ($48,665) per annum.

The senate is to be composed of eight members for each state, the same to be chosen by the houses of parliament of the several states. The term of office is six years, but half the senators are to retire every third year. The senator must not be less than 30 years of age, and must have been five years a resident within the commonwealth.

The house of representatives is to be composed of members elected for a term of three years by the electors of the lower house of each state, but no colony is to have less than four representatives. There is to be one representative for every 30,000 people. The member must be at least 21 years of age, and must have been three years a resident within the commonwealth.

Members of both houses are to be paid £500 ($2,433.25) per annum.

The parliament shall be subject to the provisions of this constitution, to have full power to make all such laws as it thinks necessary for the peace, order, and good government of the commonwealth with respect to the following:

(1) Regulation of trade and commerce with other countries and among the several states.

(2) Customs, excise, and bounties, that these shall be uniform throughout the commonwealth, and that no tax or duty shall be imposed on goods exported from one state to another.

(3) Raising money by any other mode of taxation, but all such taxation shall be uniform throughout the commonwealth.

(4) Borrowing money on the public credit of the commonwealth.

(5) Postal and telegraphic services.

(6) Military and naval defense of the commonwealth, and the calling out of the forces to execute the laws of the commonwealth in any state or part of the commonwealth.

(7) Munitions of war.

(8) Navigation and shipping.

(9) Ocean beacons and buoys and ocean light-houses and lightships.

(10) Quarantine.

(11) Fisheries in Australian waters beyond territorial limits.

(12) Census and statistics.

(13) Currency, coinage, and legal tender.

(14) Banking, the incorporation of banks, and the issue of paper money.

(15) Weights and measures.

(16) Bills of exchange and promissory notes.

(17) Bankruptcy and insolvency.

(18) Copyrights and patents of inventions, designs, and trade-marks.

(19) Naturalization of aliens.

(20) The status in the commonwealth of foreign corporations.

(21) Marriage and divorce.

(22) The service and execution throughout the commonwealth of the civil and criminal process and judgments of the courts of the states.

(23) The recognition throughout the commonwealth of the laws of the states.

(24) Immigration and emigration.

(25) The influx of criminals.

(26) External affairs and treaties.

(27) The relations of the commonwealth to the islands of the Pacific.

(28) River navigation with respect to the common purposes of two or more states.

(29) Control of railways with respect to transport for the purposes of the commonwealth.

(30) Matters referred to the parliament of the commonwealth by the parliament or parliaments of any state or states.

(31) The exercise within the commonwealth or at the request or with the concurrence of the parliaments of all the states concerned of any legislative powers with respect to the affairs of the territory of the commonwealth or any part of it which can at the date of the establishment of this constitution be exercised only by the parliament of the United Kingdom or by the federal council of Australasia.

(32) Any matters necessary or incidental for carrying into execution the foregoing powers and any other powers vested by this constitution in the parliament or executive government of the commonwealth or in any department or officer thereof.

Further, the parliament was to have exclusive power to make special laws for the people of any particular race, and to govern any territory which may become the seat of government.

With regard to money bills, it is provided that laws appropriating any part of the public revenue or imposing any tax shall originate in the house of representatives. The senate has equal power with the house of representatives in respect of all laws except laws imposing taxation and laws appropriating the necessary supplies for the ordinary annual service of the government, which it may affirm or reject, but must not amend. But the senate may not amend any law so as to increase any charge or burden.

Laws may be reserved for the Queen's assent, and the Queen may disallow a bill within two years after it has received the governor's assent.

The executive.—The governor-general is authorized to create an executive council. For the administration of the executive government, the governor-general shall appoint seven ministers, who may sit as members of either house of parliament. The control of the following departments passes at once to the ministry of the commonwealth, viz, customs and excise, posts and telegraphs, defense, light-houses, and quarantine.

Federal judicature.—Parliament has power to establish a supreme court of Australia to consist of a chief justice and not less than four other judges. Also, parliament may establish courts to administer federal law. Appeals from the state courts are to be made to the supreme court of Australia when it is established, but leave may be obtained to further appeal to the privy council.

Finance and trade.—So soon as a federal tariff is imposed, trade throughout the commonwealth is to be absolutely free.

Powers of the states.—All powers possessed by the states and not withdrawn by the constitution of the commonwealth remain vested in the states.

All communications to the Queen are to be made through the governor-general.

No member of the parliament of the commonwealth shall sit as the member of a parliament of a state.

New states.—Parliament may admit new states on such terms as it thinks fit. No territory is to be taken from any state without the consent of its parliament.

Seat of government.—This shall be determined by the parliament of the commonwealth.

Amendments to the constitution.—A law amending the constitution must be passed by absolute majorities of both houses and by an absolute majority of state conventions, the approving states to contain a majority of the people of the commonwealth. The conventions are to be elected by the electors of the house of representatives.

Resolutions were also passed by the convention recommending the parliaments of the federal states to make provision for submitting the constitution to the people for their approval, and also recommending that the constitution should be brought into force by Her Majesty's proclamation so soon as it has been adopted by the colonies.

Up to the present time, there has been no definite movement toward federation by any of the Australian colonies, but a federal council will be held in Hobart during the present month. All the colonies, with the exception of South Australia, will send delegates, and it is to be hoped that some action will be taken to overcome the local prejudices of the separate states, and that a federated Australasia will soon be an established fact. The saving in expense by such federation will be very great, as the present large force of custom-house officers all along the border of each of the colonies can be done away with, and free intercourse will be established between the separate states. Again, the credit of the federated commonwealth will be very much greater than that of the individual colonies, and many local industries which are now prescribed by the narrow limits of their respective states will have the opportunity to enlarge the output and thus become flourishing institutions. General Edwards, who has been appointed by the English Government to report on Australian defenses, reported that any action taken on the part of the separate colonies without federation would prove fatal to the success of the scheme.

I wish to acknowledge my indebtedness to the officials of the Melbourne Public Library for the facilities rendered me by the loan of books and for other valuable information which they collected; also, to Mr. Howard Willoughby, of the Melbourne Argus, for assistance and the use of his work on Australian Federation.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *January 3, 1895.*

CONFERENCE OF PREMIERS AND FEDERAL COUNCIL.

The London Times of February 1 contained a dispatch from Hobart stating that resolutions had been adopted by the "conference of premiers" in session there, providing for "a complete scheme for the accomplishment

of the federation of the colonies." The resolutions declare in favor of a convention to consist of ten representatives from each colony, chosen directly by the electors, to frame a federal constitution, which is to be submitted to the electors for acceptance or rejection by direct vote. The constitution, if accepted by three or more colonies, is to be submitted to the Queen by an address from the parliaments of the colonies praying for the necessary legislative enactment. The resolutions also propose that a bill be submitted to the parliament of each colony for the purpose of giving effect to the council's recommendations. At another meeting, the conference was to consider a draft of the proposed bill.

The "federal council" mentioned by Consul-General Maratta met at Hobart January 31, and, according to a dispatch to the London Times from Melbourne, "the feeling of jealousy of the premiers' conference was again apparent. Mr. Turner declared that the premiers desired to work in harmony with the council, but hostile speeches were delivered by the Queensland and Perth delegates."

SEWING MACHINES IN DENMARK.

The trade is supplied from Germany, England, Sweden, and the United States. Of American machines, only the Singer and the New Home are known and introduced here. The majority of Singer machines imported come from Glasgow, where, I understand, this company has a factory. The New Home company has also recently introduced its machines here. No other machines from England other than the English-made Singer, as above stated, are brought into this market. The reason assigned for this is that the English machines are different in construction from those known and appreciated by the Danes, but, more especially, because they are said to be more expensive.

The German machines, however, have, beyond doubt, the largest sale in Denmark. They are, as a rule, cheaper than other machines, and while it is true that some of their makes are trifling and sell for a song, there are many good machines sold cheap enough to hold their own against all comers.

Swedish machines have also been imported here, but they have little reputation and less sale. There are also some few machines manufactured here, but I think it will be admitted that, other things being equal, they can not compete with the Germans in price.

I have endeavored to secure figures as to the total number of machines imported into Denmark during the last fiscal year, but the bureau of statistics gives no information on this point and the custom-house officials say "there is no way of obtaining such information, as the machines pay duty according to different schedules." A dealer, however, estimates the importation to be

about seven thousand machines annually. Of this, it would be safe to say that five thousand are German machines.

Duty is levied according to the different parts of the machine, as follows: The machinery proper pays a duty of 6 öre (1.6 cent) per Danish pound; the woodwork pays about 14 öre (3¾ cents), and the stand of iron about 2 öre (one-half of a cent) per pound. Owing to the high duty on the woodwork, some dealers have this made in Denmark and thus save the expense. The easy-payment system, or, as it is called in the United States, "the installment plan," is quite in evidence here, and is, in fact, the rule generally followed. Canvassing agents, however, are not as common as in the United States. The best way to reach the people is through the columns of the newspapers.

As machines are cheaper at present than they were a few years ago, a correspondingly larger number are sold, and the trade is getting brisker. But the price is variable. Some dealers offer German treadle machines at from 55 to 80 kroner ($14.74 to $21.44), and, again, I have seen hand machines advertised at 25 kroner ($6.70). The agents of the Singer Sewing Machine Company—Bendix Bros.—give the following average prices of their machines, viz: Family treadle machines, 85 kroner ($22.78); tailor treadle machines, 125 kroner ($33.50); shoemakers' treadle machines, 160 kroner ($42.88); hand machines, 60 kroner ($16.08). The agents of the Singer machine are well established here, and, as far as I can learn, they sell more machines than any single firm in Denmark. However true this may be—for this statement is only based on the opinions of men in the trade—a comparison of prices with the German machines is unfavorable to the Singer machine. The annual sale of the Singer machine in Denmark is estimated by a competitor to be about two thousand, the majority of which, he thinks, come from the factory in Glasgow. It would seem, therefore, that if American sewing-machine companies can put their goods in this market at a figure to compete with the German manufacturers, a good business can be established. The success of the Singer machine, in spite of its greater cost, would seem to be an inducement for other companies to enter the field. The New Home company has already made the venture, but with what success I can not say. The excellence of American workmanship is acknowledged here as well as in other parts of Europe. To introduce our sewing machines, we must sell as cheaply as the Germans.

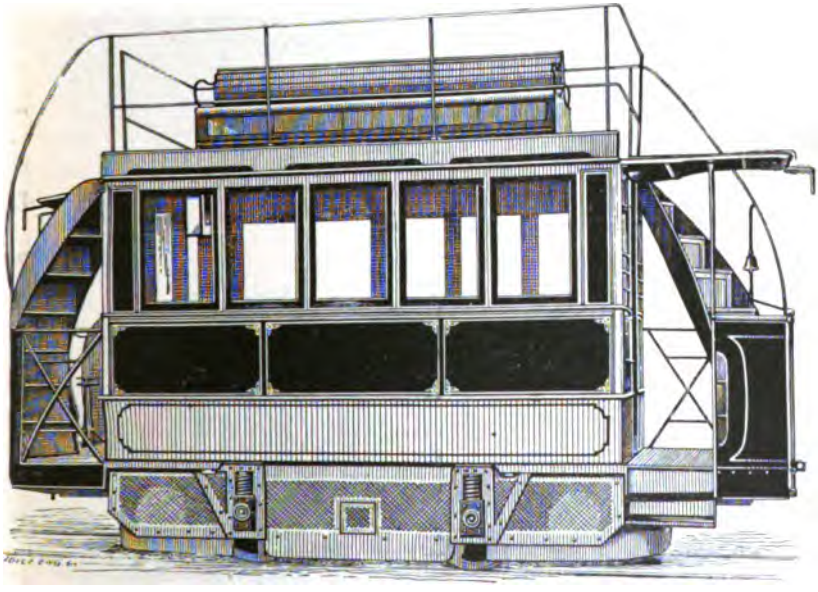
ROBERT J. KIRK,
Consul.

COPENHAGEN, *March 12, 1895.*

THE GAS-MOTOR CAR IN DRESDEN.*

About one year ago, I witnessed a trial trip of a gas-motor car in this city, and since that time, I have watched the progress and improvements that have been made, and am now able, with the aid of information obtained from Mr. John Young, superintendent of the Gas Traction Company (limited), London and Dresden, to report that the motor during the first trial trip worked fairly well, but showed some deficiencies, apparently in its mechanical construction, and that since that time, those deficiencies have been remedied, and during later trial trips the motor car has proved entirely satisfactory.

At the first trial, the car always started with a noticeable jerk and did not run smoothly, and when not in motion, a considerable quantity of gas

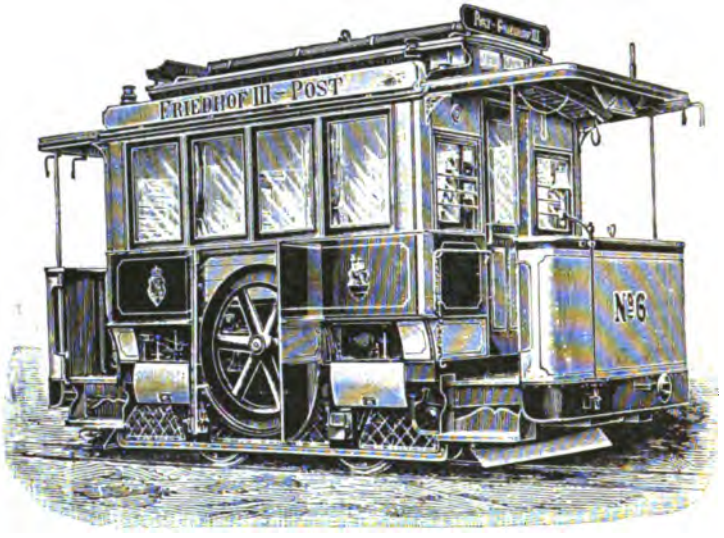


was used to keep the motor running, causing the car to sway and tremble; the clutch coupling did not work regularly and broke easily; the car was clumsy and unsightly. All these objections have apparently been overcome, and an easy, manageable, economical motor for public traffic is the result.

The illustrations will show the appearance of the car.

This car weighs 5½ German tons (about 12,127 English pounds). The distance between the wheels is 1.55 meters (about 5 feet 2 inches), and the length of the car frame is 3.5 meters (about 11 feet 5 inches). There are

*For previous reports upon gas motors, see CONSULAR REPORTS No. 173 (February, 1895), p. 264; No. 167 (August, 1894), p. 633; and No. 163 (April, 1894), p. 695.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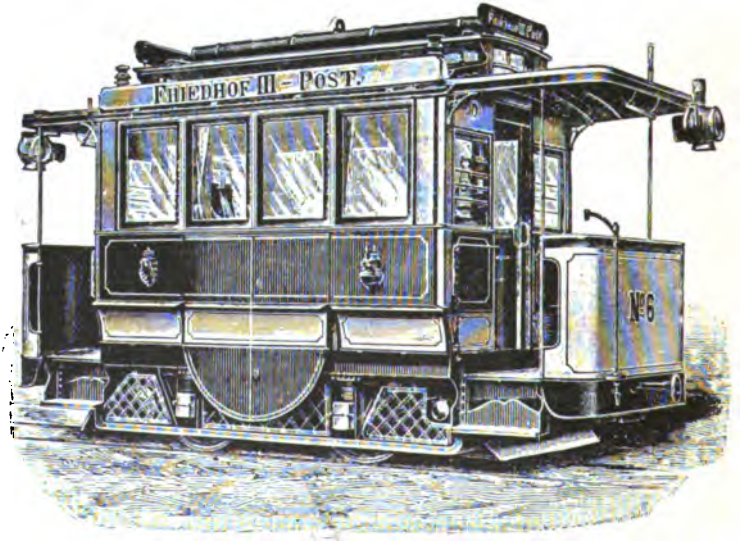
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fourteen inside seats, ten on both platforms, and twelve on the top of the car, making a total capacity of thirty-six seats.

The car has a gauge of 1.435 meters (about 4 feet 7 inches), and has the appearance of an ordinary street car, excepting the two folding doors in the center of one side of the car, which cover the driving wheel S.

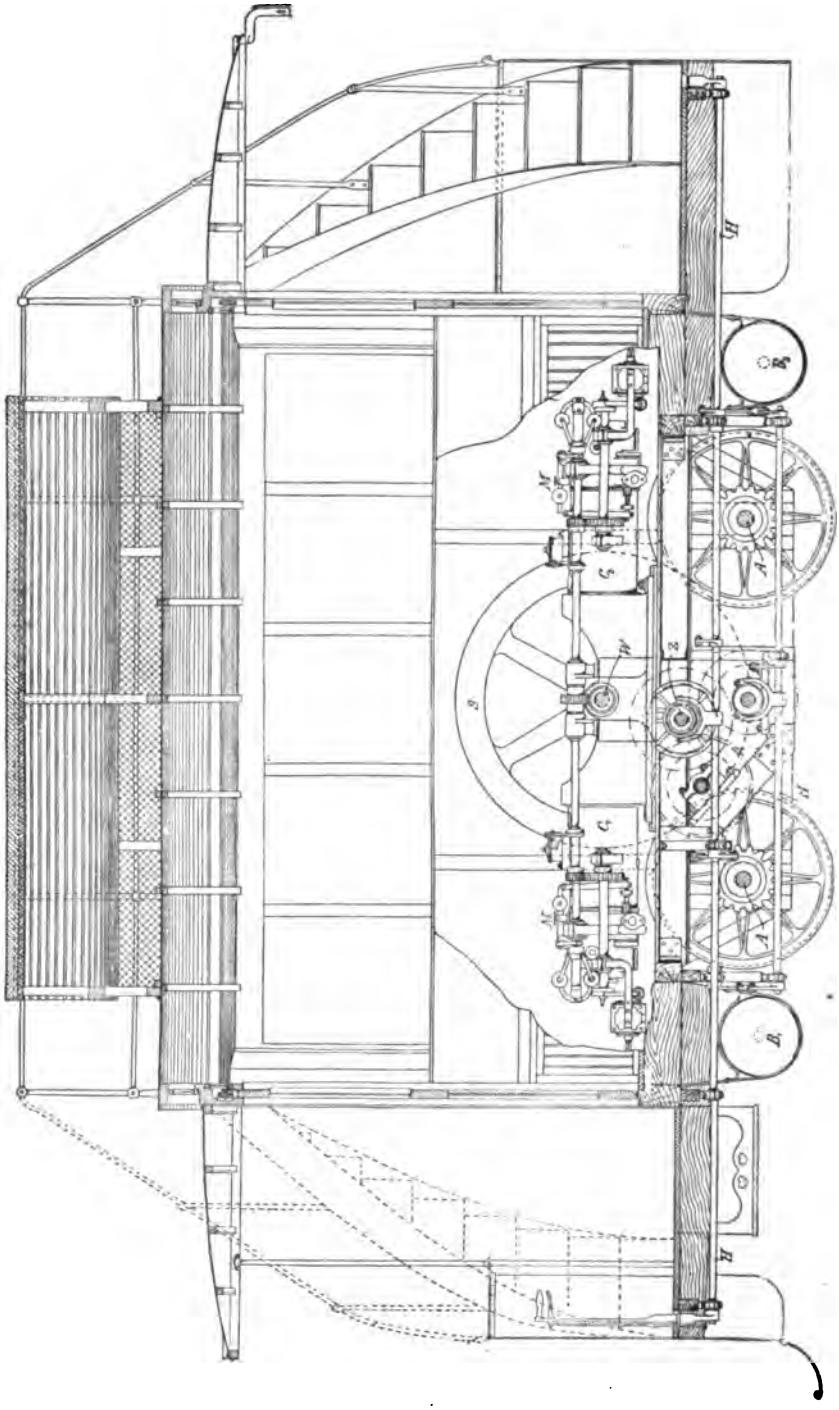
The illustration will show the working of the motor.

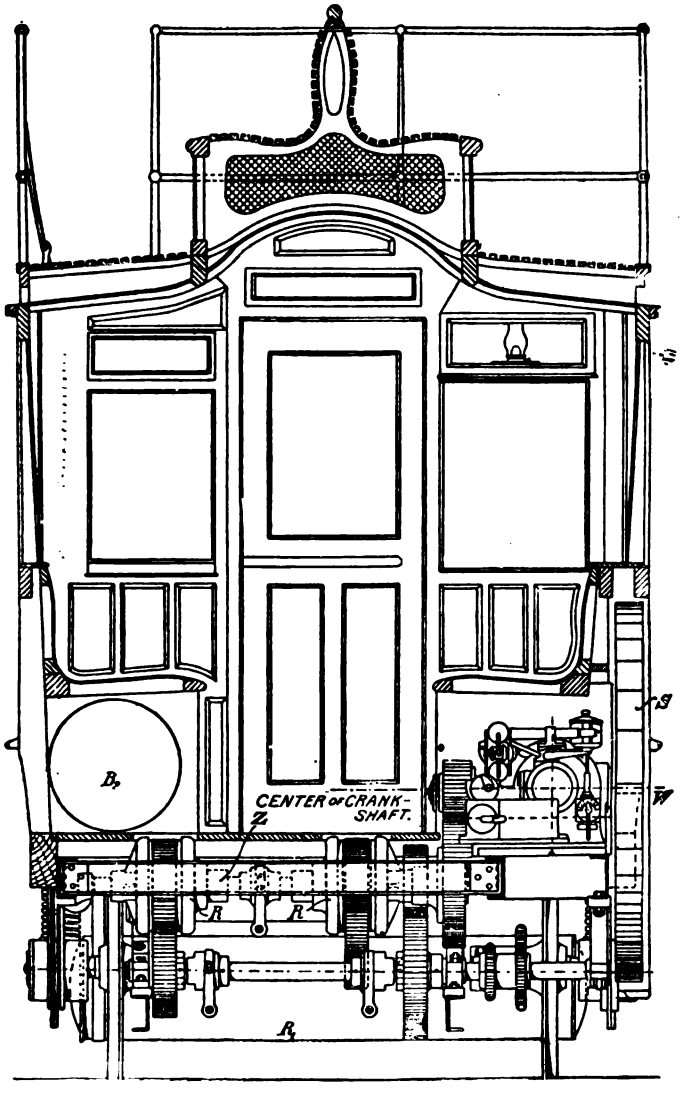
The motor has 10 horsepower, with two cylinders (C^1 and C^2), which are placed in line under one of the rows of seats, one on each side of the shaft.

The gas in the machine is ignited by electricity without any noise. Two cylindrical gas tanks (B^1 and B^2), are fixed parallel with the axles of the wheels under the floor of the car; a third gas tank is placed lengthways under the row of seats opposite the machinery, and serves as a proper balance to the car. These three gas tanks hold about 0.95 cubic meter (33.55 cubic feet) of gas and weigh about 250 kilograms (551 pounds). The water used in cooling the cylinders circulates automatically through copper tubes eight-tenths of a millimeter (0.0315 inch) thick which run from the top to the bottom of the car in a spiral shape. The water, when heated, rises to the top of these tubes, where it cools and then flows back into the gas cylinders. The tubes are concealed under the seats. The gas tanks are covered by plates. No part of the machinery is visible inside of the car. It is only accessible from the outside by opening the two large doors above mentioned and a number of smaller doors. The car, while in motion, is noiseless, and there is no odor from the gas.

The driving gear consists of four shafts. The motor shaft W is driven directly by the gas motor and transmits the motion by means of cogged wheels on the shaft Z. On this shaft, there is a peculiar friction coupling R, as shown in the cross-section view of the machinery.

This friction coupling regulates the speed of the car, by means of a reversing lever H, connecting a larger or smaller spur wheel, as may be desired, with the other parts of the machinery. Both wheel axles are driven by chains and chain wheels which run in oil, so as to use the entire adhesive weight of the car for the development of the tractive power. To diminish the friction, the bolts at the joints of these chains are incased in steel, which can revolve, and thus prevent any noise while the machine is working. During short stops, the machine remains in motion. By means of a lever, the machinery is thrown out of gear to stop the car; while out of gear, the motor uses very little gas, because the number of revolutions is diminished, and only after every eight or ten rotations a new ignition of the gas occurs, which is sufficient to keep the motor in motion. One of these levers is connected with the "friction coupling," and serves to diminish or increase the speed of the car from 150 to 240 rotations per minute; the other lever is directly connected with the motor and controls the movement of the car forward or backward. The levers are easily controlled by the conductor.

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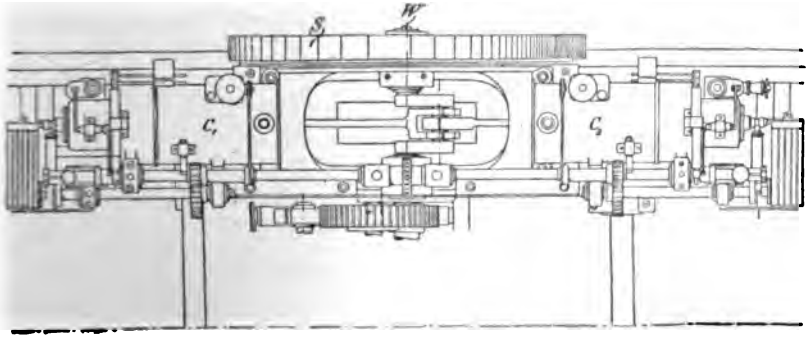
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An alarm bell, similar to those used on ordinary horse cars, is attached to the handle of the brake. The levers and brake handles are easily removed from one platform to the other as may be required when changing the direction of the car.

The wheels of the car are peculiarly fastened to their axles. One wheel is secured to the axle, while the other can slip in its hub in the proportion of 80 per cent of the circumference of the axle toward the neighboring wheel until it is necessarily taken along by the rotation of the axle. Thus, both wheels can revolve differently when the car takes a curve, and the friction or resistance caused by the curve is greatly diminished.

The speed obtained at the trial trip was at the rate of 14 kilometers, or about 8.7 miles, per hour. All curves were overcome with ease, and without any swaying or jerking motion, the smallest radius being 15 meters (49.2 feet). The speed was diminished while passing over the curves.

The consumption of gas amounted to about one-third of one cubic meter (11.74 cubic feet) per kilometer (0.621376 mile),* one cubic meter (35.316 cubic feet) of gas costing 12 pfennigs (2.86 cents). The average cost of gas per kilometer, or 3,280 feet 10 inches, would be 0.04 pfennigs (0.95 cent).

The gas used for the motor is under a pressure of 6 atmospheres, and the manometer shows at all times the amount of gas consumed.

The compressed gas enters at first into a regulator for gas pressure (Pintsch system), where the pressure is reduced from 30 to 40 millimeters (1.18 to 1.57 inches) water pressure. The gas contained in the three gas tanks, viz, 0.95 cubic meter (33.35 cubic feet) is sufficient to run the car 17.1 kilometers (10.63 miles).*

The gas-supply station consists of an 8-horsepower gas motor, which runs a force pump with a capacity to compress about 60 cubic meters (2,118 cubic feet) of gas to 8 to 10 atmospheres per hour. The gas is taken from the city gas pipes in the street, and the tanks in the cars are filled by using rubber tubes or hose; they can be filled in about thirty seconds.

The cooling water must be removed from time to time, but not so often as the gas. This is done by means of water taps at the filling station. In extreme cold weather, a little glycerin is used to prevent the water from freezing.

It is estimated that a car like the one described can be built and fully equipped for about 15,000 marks ($3,570). This estimate is based upon the price of labor and materials in Germany and on the theory of manufacturing on a large scale.

It is impossible now to fairly estimate the average life of a car or the annual expenses for repairs.

* There is a wide difference between these estimates.

This system of motor power is attracting wide attention, and many German cities are adopting it for street cars. Trials are proposed to be made with gas locomotives for narrow-gauge railroads and for shunting purposes at railroad stations.

WM. S. CARROLL,
Consul-General.

DRESDEN, *March 8, 1895.*

HORSE MEAT FOR GERMANY.

In view of the prohibition of German markets to American cattle, the following statistics relative to the preparation and sale of horse meat in Germany may be of interest:

While exact statistics as to the consumption of horse meat are difficult to obtain, it would seem that, in the large cities, it is almost as great as that of beef or mutton. In the smaller cities, where there still exists some prejudice against meat of this character, the consumption is not so great, being apparently about one-third that of beef, but even in these smaller places, it is growing daily. Observation in any one of the larger German cities will bring to the attention many meat shops devoted entirely to the sale of horse meat. Of course, the customers are exclusively the poorer classes, but as they comprise nine-tenths of the consumers of the entire country, it will be seen it is of vital importance to understand just what factors enter into their food consumption.

In the first place, with beef from 15 to 25 cents a pound, and other first-class meats upon a corresponding scale of prices, it is only on the rarest occasions that the average workman, earning 75 cents or $1 a day, can furnish his family with the kind of meat the American workman eats as a matter of course. The German workman's task is, however, just as exacting as that of his transatlantic contemporary. He must, if he would keep up his bodily strength, have as much nutriment, even if it is of a coarser nature. The demand existing, therefore, the supply has been found. It is horseflesh.

In Germany, the prejudice against horse meat is fast disappearing. The workman has found that, for 7 cents a pound, he can procure a food excellent in every particular, and as the knowledge grows, the demand for horseflesh grows with it. But it is beginning to be difficult to keep the supply up to the demand.

Formerly, the German butcher procured horses which were either worn out or injured so as to be useless for working purposes for from $5 to $10 each. The supply of horses of this character has been well-nigh exhausted, however, and he must now pay from $45 to $50 for his horses. The consequence is, that just as people have become attracted to horse meat because of its exceeding cheapness in comparison with beef, the butcher finds he must increase

prices. But the horse supply in the United States is practically inexhaustible. Horses can be raised in the West much cheaper than cattle. They can be slaughtered as easily, or they can be shipped alive across the sea much more easily than cattle, and can be sold either on the hoof or dressed at a price certainly not greater than the 7 cents a pound which the German workman has hitherto paid. Canning is out of the question, of course, but the meat is consumed in Germany in both a salted and smoked state, as well as fresh, and in either one of the three conditions the American exporters could furnish it.

With the astonishingly rapid disuse of horses in the United States, consequent upon the building of so many electric and cable lines, the raising of horses, especially in the West, is far from being the profitable industry it formerly was. If the ranchman, however, can make the raising of horses for food profitable, why should he not do it?

The subject is of twofold interest to the American packer whose beef and beef products are now excluded from the German market, and to the horse raiser whose invested capital now brings him very unsatisfactory returns. It is true that in our own country, the prejudice against eating horse meat is so great that there will, probably, never be a home demand for meat of that kind, but that is no reason why American ranchmen should not take advantage of the existence of a different state of things in another country to found what can be made a very profitable industry and extensive export trade.

E. W. S. TINGLE,
Consul.

BRUNSWICK, *March 15, 1895.*

INCOME TAX OF PRUSSIA.

For the year 1894–95, the sum raised in Prussia in the nature of an income tax amounted to $29,043,084.07. It was assessed upon 2,520,930 taxpayers (legal persons), of whom 1,922 were societies or corporations. These latter paid $1,845,272.62, while the 2,519,008 individuals contributed $27,196,811.45.

According to the rolls, prepared in view of the tax, the number of individuals was 30,387,331. Of this total, 21,233,024 were exempt because their incomes were less than 900 marks ($214.20) or because of their foreign nationality. The population affected by the tax included 4,702,582 persons living in cities and 4,444,841 residing in the country, making a total of 9,147,426 individuals, represented by 2,519,008 taxpayers, of whom 1,476,809 belonged to the cities and 1,042,199 to the country districts. Consequently, in the city, each taxpayer paid for 3.18 persons, while in the country he represented 4.26 individuals. The estimated income of these taxpayers was a total of $1,376,781,809.05, of which $936,379,017.56 were for the inhabitants of cities and $440,402,791.49 for those of the country. The

average income of all persons in Prussia who have an income exceeding 900 marks ($214.20) is $634.06 in the cities and $422.57 in the country, the general average income for both classes being $546.56. Naturally, the importance of the revenue varies according to cities and districts. The average calculated in each administrative district runs from $398.17 to $814.91; it reaches $673.78 in the city of Berlin.

The tax assessed upon individuals, amounting to $27,196,811.45, was distributed as follows: For the cities, $20,094,714.38; for the country, $7,102,097.07. The amount of tax of each taxpayer averages 2.15 per cent in the cities, 2.28 per cent in the city districts, 1.61 per cent in the country, and 1.98 per cent in general of income declared. The tax per person amounts to $1.65 in the cities, $2.32 in the city districts, and 38 cents in the country; the general average is 89½ cents per person.

There were only 321,296 actual taxpayers who had an income of more than 3,000 marks ($714), of whom 242,703 resided in cities and 78,593 in the country. The entire total revenue of these persons reached $656,329,855.15, and was, as respects its source, divided as follows: (1) From personal property, $211,338,095.46; (2) from real estate, $176,554,655.59; (3) from commerce, industry, and mines, $227,009,833.06; (4) from other lucrative occupations, $150,629,379.14; total, $765,531,963.25. From this total, there must be deducted $109,202,108.11, representing the interest of debts and other permanent incumbrances. The tax upon these categories of revenue amounted to $19,043,509.07—that is to say, more than two-thirds of the entire tax upon the revenue is borne by taxpayers whose income is superior to 3,000 marks ($714), whose numbers amount to a little more than one per cent of the total population and one-eighth part of the grand total of the taxpayers.

The subjoined table indicates the distribution of taxpayers according to the amount of their incomes:

$214.20 to $714	2,197,712
$714 to $1,428	209,702
$1,428 to $1,904	39,556
More than $1,904	72,038

HENRY P. MORRIS,
Consul.

GHENT, *March 7, 1895.*

AMERICAN ART PRODUCTS IN GERMANY.

It is well known that, on the occasion of the Columbian World's Fair, a number of specimen productions of American art and skill in fashioning the precious metals on exhibition there were purchased at the instance of the Industrial Art Museum, of Berlin. This collection, consisting of forty-seven ornamental art pieces and decorative table vessels, produced for the most

part by the establishments of Tiffany & Co., the Whiting Manufacturing Company, and the Gorham Manufacturing Company, is now being publicly exhibited in those German industrial cities which represent the same branch of industry. In this connection, therefore, it will undoubtedly prove a source of great satisfaction to the business and other circles interested in the United States to learn that these American works of art are meeting with most cordial encomiums on the part of German expert judges. At the present time, the collection mentioned is on exhibition at the Royal Drawing Academy of the city of Hanau, one of the leading places representative of the German gold and silver ware industry. The local papers devote long articles to praising the small exhibit, calling particular attention to the fact that these American products are not only effective by reason of the charm of novelty, but that they also afford instructive study as regards form and technical development.

I close this short report with the translation of the critical judgment rendered by a German expert in the branch of industry in question, recently published in the Hanauer Zeitung. He writes:

On the whole, from a purely technical standpoint, one must concede the solidity, dexterity, and neatness of execution displayed by these pieces. The principles of art followed by the Americans, as demonstrated by this collection, are difficult to properly characterize. Numberless suggestions, furnished by European art forms, Oriental influence, naturalism, practical American sense of fitness, and a little American primitiveness, also, are combined in the most remarkable manner. The great art traditions which guide European schools of art and elevate their standards of taste are obviously lacking with the Americans; but, on the other hand, these traditions do not, as with us occasionally, act as an immovable interference; the American artists manipulate art forms in an entirely free and unhindered manner. The further circumstance that, in the large establishments of American firms, artisans from all the countries of Europe and Asia are employed, each giving the impress of his own particular schooling to the work of art produced, must also be taken into consideration. The natural result is that American productions show something of the peculiar, the novel, and the surprising. Many of the effects attained are bizarre, it is true, but then there is much that is original, of inventive ingenuity, and worthy of study. It is our opinion that, without any doubt, many fruitful suggestions can be gained from these works, especially as regards technical execution. The novel technical process consisting in the galvanic coating of pottery and glass vessels should be adopted with advantage by our branch of this industry. The effort to increase the color effect of silverware by employing stone decorations, enameling, etching, and vari-colored gilding is likewise worthy of general imitation.

The great Republic across the sea has added to its progressiveness in all other respects an advance in the dexterous manipulation of the precious metals which should not be undervalued by us in Germany.

LOUIS STERN,
Commercial Agent.

BAMBERG, *February 5, 1895.*

BURIAL OF THE DEAD IN SWITZERLAND.*

In response to a request issued by me, the various consuls of the United States in Switzerland have submitted reports on the question of free burial of the dead in their various consular districts.

Mr. Gifford, the consul at Basle, reports:

In the Canton of Basle City, the law provides for the burial of the dead at the expense of the state. Coffins and all other necessary articles are furnished on application to certain undertakers designated by the government. Everything connected with the interment is absolutely gratuitous, including the grave and the service. Rich and poor are alike entitled to the benefit of this law, and all classes avail themselves of it freely. Of the 1,621 burials which took place in the year 1893, 1,194 were at the expense of the canton. The execution of the law is intrusted to an official of the sanitary department. The accounts of this department for the year 1893 show that the cost to the canton arising from the gratuitous burial of the dead was as follows: Coffins, $2,388; burial expenses, $5,528; salaries, $3,325; care of cemeteries, etc., $2,300; total, $13,341.

The law has been only a few years in operation, but has from the first been regarded with great favor, even by those who, as taxpayers, are the most burdened by it.

On the 1st of January, 1895, the new law providing for the gratuitous burial of the dead in the Canton of Neuchatel goes into effect. It is provided that each commune in the canton shall furnish everything requisite to the burial of its deceased citizens, except coffins, which may also be given in case the several communes make special provision for that purpose. Up to the present time, no regulations for carrying the law into effect have been adopted in the different towns and cities of the canton.

Mr. Ridgely, the consul at Geneva, reports:

In none of the cantons of this consular district are the dead buried at the cost of the state. In some of the communes, however, there are local regulations for free burial. In the commune of Lausanne, Canton of Vaud, for example, there is a law providing for free burial for everybody; it is only necessary to announce to the superintendent of police that some one is dead and that the family desires that the deceased be buried. The interment follows in a simple way at the expense of the commune, under the direction of the department of the police. But this law is taken advantage of only by indigent people. Those who can afford to bury their dead do so in the usual way at their own expense.

In the city and Canton of Geneva, there is no law providing for free burial under any circumstances, but there is a habit, or usage, or custom, as you please, of burying paupers gratuitously; if they are native paupers, they are buried under the direction of the public hospital of Geneva, and the charge, amounting to about $6, is paid out of the public hospital fund; if they are pauper foreigners or strangers and have died in Geneva, the burial is conducted by the department of justice and police, and the cost is charged to that account. In every instance, the indigent or pauper condition of the deceased must be proved to the satisfaction of the authorities. The interments are in the two public cemeteries of Geneva where persons of all classes are buried. There is no such thing as a "potter's field."

In other communes of the several cantons of this district, there are distinct local regulations for the burial of paupers, but there is no free State or cantonal burial; and only in the commune of Lausanne is there a law providing for free burial for everybody.

* This series of reports was obtained by the Department upon application from a newspaper in Rochester, N. Y., and is published as containing matter of general interest.

In the commune of Montreux, Canton of Vaud, there is a reduced tariff for the burial of the poor; and in case of absolute indigence, the commune pays a share of the cost of burial; but there is no law providing for complete gratuitous interment under any circumstances.

Two years ago, a national law providing for free burial throughout Switzerland was proposed, but the mayors of many of the leading communes in the various cantons held a convention and protested against it so urgently that the law was defeated in its very incipiency.

Mr. Germain, the consul at Zurich, reports:

In nearly all the cantons of my consular district, the dead are buried by and at the expense of the communities, such being part of the duty of the health authorities. Burial grounds are provided by the communities, the cantons bearing part of the expenses, and no fee is charged to any family for burial plots.

The burying of the dead is part of the duties of the local government, either of the city council or of the health authorities. The communities provide for the following expenses: (1) Medical inspection, (2) advertising of funerals, (3) coffin and dressing of the dead, (4) funeral procession and hearse service, (5) opening and closing the grave, (6) putting up and numbering headboards on each grave.

The graves must be ornamented with growing plants in a modest way at the expense of the community, but families have the privilege to add to these decorations.

The canton indemnifies the communities in the following amounts: For burying a resident of the canton, 10 francs ($1.93), provided the body is buried in the canton proper, but 5 francs (97 cents) only, if taken to another canton for burial. Special subsidies, as provided by law, will be paid to communities by the cantonal government in case of epidemics.

From a copy of the regulations for the Canton of Schaffhausen, it appears that it is left entirely with the communities to regulate and to prescribe the necessary formalities to be pursued in cases of death.

Where the community provides for the funeral expenses, the canton indemnifies them in sums as follows: For children under one year of age, 77 cents; above one year and under 12 years, $1.55; all persons above 12 years of age, $3.10.

In nearly all of the communities of the Canton of Aargau, funeral expenses must be paid by the family of the deceased; only in a few communities are these expenses paid out of the public funds. The canton bears no part of the expenses.

Mr. Kemmler, the consul at Horgen, reports:

From the information I have been able to gather, it appears that the Canton of Glarus is the only canton in this consular district in which the interment of all the dead (citizens as well as temporary inhabitants or strangers) is provided for entirely at the expense of the state.

The burial takes place under the supervision and according to the regulations of the community in which the deaths occur, but the canton pays all the expenses for the inspection of the body, notice of funeral, furnishing the coffin and laying out the body, conveying the remains to the cemetery, digging and covering the grave, marking the last resting place and keeping it in proper condition for a term of ten years. The dressing of the body is left to the relatives, but in the absence of such, and in the case of strangers, it is also attended to at the expense of the canton. The relatives are authorized to provide for special adornment of the grave and for monuments. The cemetery is the property of the community, and placed under the care of a superintendent, who has charge of the grounds, arranges for and conducts the funerals, keeps a register of the graves, which are numbered consecutively, and sees that they are properly marked and kept in order.

With the approval of the cantonal authorities, several communities may join for the purpose of establishing and maintaining burial grounds.

The regulations for the burial of the deceased person are minutely described. The body is subject to inspection, and the demise reported, by the attending physician or a special inspector, to the recorder of life statistics, who, if he does not hold the position himself, informs

the superintendent of the cemetery. Notice of the funeral is given by a messenger appointed for the purpose by the superintendent of the cemetery, upon consultation with the family of the deceased. The coffins are to be made of pine wood after a model to be prescribed by the cantonal authorities, who also establish a uniform price for them. The person furnishing the coffin has to perform the usual functions of the undertaker, with the exception of dressing the body. The remains are generally carried to the burial grounds by persons selected for the purpose by the superintendent of the cemetery, except where the distance between the home of the deceased and the cemetery is too great, in which case a proper vehicle may be used. Municipalities have, however, the authority to keep a hearse or employ a proper conveyance for all cases, if they so choose. The graves follow each other in regular order in uniform rows, and the dead are all laid side by side without distinction as to standing in life, religious belief, or cause of death. Children, however, on account of the smaller size of their graves, are buried apart from the adults. Religious services may be held, according to the faith of the deceased, but in case they are dispensed with, in compliance with the wishes of the deceased or his relatives, the customary tolling of the bells still takes place, and the recorder of life statistics reads at the grave the personal record of the deceased. The officials and employees at burials are strictly prohibited from accepting gratuities. The expenditures for burials, as far as authorized by enactment, are at once paid by the municipalities and refunded by the canton in semiannual settlements. Expenditures incurred for the interment of persons who were not citizens of the canton may be recovered out of the assets of the deceased, from responsible relatives, or the communities to which they belonged while living.

These are, in the main, the regulations for the free burial of the dead in the Canton of Glarus.

OTHER CANTONS.

In the Canton of Schwyz, only the district of Einsiedeln pays the expenses of burying all the deceased citizens, as well as temporary residents of the district, out of the district treasury; and in the Canton of Zug, the city of Zug defrays a part of the expenses of such interments.

In the Cantons of Lucerne, Uri, Unterwalden, Grisons, and Ticino, free burial is not yet introduced, though in several of them the matter is being agitated and is under serious consideration. Most of the cantons, though not providing for free burial, have stringent regulations for handling, keeping, and burying the dead. Inspection of the body, or at least a certificate of death from the attending physician, to be filed with the recorder of life statistics, is everywhere required, and special provisions against premature burial and dissecting or treating a body in any manner precluding possible resuscitation, before absolute certainty of death is established, are contained in all the rules for the burial of the dead which have come to my notice.

In all cases of sudden or suspicious death, special inquests are prescribed for, and only under exceptional circumstances can burial be permitted before the lapse of a specified time (which varies in the different cantons between thirty-six and seventy-two hours) after apparent death.

Graves, generally, are only to receive one body, and are not to be opened for the reception of new bodies until after the lapse of such number of years as is assumed to be required for the complete decay of the body, which varies in the different cantons from three to twelve years for children and from twelve to twenty years in the case of adults.

Wherever free burial has been introduced, it was done on the principle that, death making all men equal, there ought to be no distinction in the burial of the departed. It is assumed that all the citizens and residents, high or low, rich or poor, will avail themselves of the provisions of the enactment, and that all the funerals and interments will be equally plain and unostentatious.

So far as I am informed, free burial, as a cantonal matter, does not exist in any of the cantons of this consular district (St. Gall). In 1892, the Canton of St. Gall voted on the question of free burial, and it is thought the vote would have been favorable to it had not the question of cremation also been involved. As is was, free burial was defeated by a large majority through the opposition to cremation.

Free burial, however, exists in a number of the communities of the different cantons. The city of St. Gall (30,000 inhabitants) adopted it in 1877. The cost is paid from the city treasury. Burial of this sort is for citizens only, not for nonresidents. On an estimate of seven hundred deaths per annum, the city of St. Gall appropriated for free burial, in the last fiscal year, the following amounts: Actual funeral expenses, $3,667; chapel, $965; maintaining graveyard, $482; hearse, $193. The course pursued by the authorities of the city in each case of free burial is given in the following extracts from the municipal police regulations: An attendant calls at the house of mourning, after verbal notice of death has been given at the police office, and receives a further notice in writing. He attends to dressing the body, gives notice to the coroner, to the *civilstandsamt* (officer of vital statistics), to the clergyman, the bell ringer, the undertaker, and the gravedigger. The attendant must also issue the invitations to the funeral, and must be present half an hour before the time of the burial. The undertaker and gravedigger must, after receiving notice, go at once to the house of mourning, measure the corpse, provide the coffin, and place the corpse therein. On the day of burial, they must see that the body is taken from the house of mourning and placed in the funeral car. They must escort the car to the grave, take from it the coffin, inter it, and cover the grave. The coffin must be black and capable of being hermetically sealed. The sexton must sow the grave with ray grass. In front of the house of mourning an urn must be put, on the day of burial, for the reception of cards of condolence. The dead bodies of children under one year of age must be carried to the cemetery; those of young persons under 16 years of age, taken in a one-horse car, and those of all other persons in a two-horse car. Extras, such as costlier coffin, planting of flowers on the grave, etc., must be provided for at private expense.

IRVING B. RICHMAN,
Consul-General.

ST. GALL, *November 28, 1894.*

EXPORTS DECLARED FOR THE UNITED STATES.

QUARTER ENDING DECEMBER 31, 1894.

The following statements were received too late for insertion in the April number of CONSULAR REPORTS:

BRITISH INDIA.

[Report by Consul-General Polk.]

Bombay.

Carpets	$2,593.46
Curios	4,651.71
Dry goods	494.58
Furniture	724.14
Mother-of-pearl shells	3,673.40
Oil	1,231.54
Provisions	4,309.88
Seeds, other than linseed	1,192.64
Tea	137.78
Tortoise shell	501.60
Total	19,510.73

Calcutta.

Drugs	913,662.40
Fishing rods	685.56
Gunny:	
Bags	228,028.50
Cloth	457,558.25
Hides	59,007.20
Jute	644,842.55
Butts and rejections	510,792.30
Linseed	876,471.00
Mica	541.20
Oil	3,621.50
Paper stock	391.67
Rope	648.50
Saltpeter	92,284.00
Silk and seersucker	979.75
Skins	414,152.30
Tea	18,757.00
Miscellaneous	6,213.05
Total	4,228,636.73

Madras.

Drugs	17,070.50
Skins	719,921.90
Total	736,992.40

Rangoon.

Curios	4.25
Drugs	3,374.75
Miscellaneous	27,000.25
Total	30,379.25

Total from British India.

Carpets	$2,593.46
Curios	4,655.96
Drugs	934,107.65
Dry goods	494.58
Fishing rods	685.56
Furniture	724.14
Gunny:	
Bags	228,028.50
Cloth	457,558.25
Hides	59,007.20
Jute	644,842.55
Butts and rejections	510,792.30
Linseed	876,471.00
Mica	541.20
Mother-of-pearl shells	3,673.40
Oil	4,853.04
Paper stock	391.67
Provisions	4,309.88
Rope	648.50
Saltpeter	92,284.00
Silk and seersucker	979.75
Skins	1,134,074.20
Seeds, other than linseed	1,192.64
Tea	18,894.78
Tortoise shell	501.60
Miscellaneous	33,213.30
Total	5,015,519.11

GERMANY.

BERLIN AND CONSULATES THEREUNDER.

[Report by Consul-General de Kay.]

Annaberg.

Baskets (cane ware)	$2,153.59
Bristles, hair, and brushes	1,243.85
Colors and oils	1,453.50
Gloves (leather) and glove leather	156,002.78
Instruments, musical	163.63
Laces, lace curtains, and embroideries	11,954.28
Paper ware	26,147.48
Toys	1,610.40
Trimmings (beaded ornaments)	174,332.06
Total	375,061.62
Total for same quarter in 1893	137,206.23
Increase	237,855.39

Berlin.

Albums	$12,371.60
Artificial flowers	3,220.89
Astrakhan	1,336.04
Books and printed matter	20,793.35
Buttons and crochet covers	6,632.02
Chemicals, drugs, etc	94,208.59
China ware and porcelain	4,350.49
Chromos and photographs	26,709.85
Colors and oils	78,712.31
Dress and piece goods	23,174.58
Fancy feathers	1,755.70
Glassware	15,622.01
Gloves (leather) and glove leather	45,900.85
Glucose, dextrine, and potato flour	39,599.06
Glue (leather)	2,011.53
Hides and skins	14,540.00
Instruments:	
Musical	6,208.57
Scientific and optical	24,559.30
Ivory	1,329.20
Lanoline	9,174.97
Leather goods	3,583.14
Linen goods	26,201.65
Lithographs and engravings	616.66
Metal wares and machinery	20,775.13
Minerals (mica)	1,216.98
Paintings	6,011.12
Paper ware	46,213.73
Rags, jute bagging, and pulp	43,770.09
Ready-made clothing	15,373.92
Seeds, plants, and fruits	2,515.61
Sheep guts and rennets	10,767.52
Sugar (raw, beet, and refined)	38,576.37
Trimmings (beaded ornaments)	7,705.14
Umbrella sticks and handles	3,715.64
Wines and liquors	5,976.52
Wool, wool tares, and woolen goods	3,511.18
Yarns, mohairs, shawls, and mufflers	29,273.85
Zinc and zinc dust	34,217.65
Sundries	37,543.77
Total	769,776.58
Total for same quarter in 1893	546,403.48
Increase	223,373.10

Bremen.

Animals (birds)	18,981.81
Books and printed matter	4,932.08
Cement, portland	7,150.00
Chemicals, drugs, etc	9,173.97
Glassware	13,710.35
Hides and skins	4,513.67
Provisions (vegetables)	6,420.94
Rice and rice flour	435,530.24
Tobacco	93,219.13
Willow wares and wood	22,481.81
Wines and liquors	37,728.67
Yarns, mohairs, shawls, and mufflers	3,032.83
Sundries	10,207.79
Total	667,083.79
Total for same quarter in 1893	390,092.72
Increase	276,991.07

Breslau.

Arsenic	$8,465.68
Bristles, hair, and brushes	2,880.54
Cellulose	19,095.45
Chemicals, drugs, etc	8,318.62
China ware and porcelain	39,176.82
Chromos and photographs	2,292.83
Dress and piece goods	61,171.15
Glassware	4,378.97
Gloves (leather) and glove leather	197,062.56
Glue (leather)	3,576.70
Linen goods	170,297.71
Paper ware	9,642.10
Sheep guts and rennets	2,410.06
Straw goods	1,440.92
Sugar (raw, beet, and refined)	95,753.92
Tinfoil	4,063.88
Willow wares and wood	1,884.18
Wines and liquors	815.53
Wool, wool tares, and woolen goods	16,692.83
Zinc and zinc dust	14,720.29
Sundries	17,171.28
Total	681,312.02
Total for same quarter in 1893	313,897.99
Increase	248,610.69

Brunswick.

Animals (birds)	13,542.90
Asphalt	4,161.50
Books and printed matter	8,665.90
Chemicals, drugs, etc	139,320.70
Glassware	14,538.70
Gloves (leather) and glove leather	62,341.90
Instruments, scientific and optical	791.80
Manure salt, kainit, etc	13,197.10
Provisions (vegetables)	4,473.70
Sugar (raw, beet, and refined)	1,412,592.50
Sundries	6,152.30
Total	1,679,779.00
Total for same quarter in 1893	2,587,129.83
Decrease	907,350.83

Chemnitz.

Gloves:	
Cotton	64,154.09
Silk	77,488.80
Woolen	31,989.22
Hosiery:	
Cotton	1,355,603.03
Silk	18,253.67
Woolen	14,575.06
Metal wares and machinery	11,112.52
Underware	17,036.16
Upholstery goods	13,487.34
Yarns, mohairs, shawls, and mufflers	3,727.79
Sundries	21,248.69
Total	1,628,676.37
Total for same quarter in 1893	828,887.22
Increase	805,789.15

*Dresden.**

Albumen	$15,497.50
Arsenic	8,377.25
Artificial flowers	62,352.45
Books and printed matter	6,988.10
Buttons and crochet covers	3,799.56
Chemicals, drugs, etc	19,552.04
China ware and porcelain	48,494.54
Dress and piece goods	28,043.62
Glassware	27,722.56
Linen goods	121,536.62
Metal wares and machinery	2,662.05
Paintings	2,547.43
Paper ware	40,231.32
Rags, jute bagging, and pulp	43,329.12
Straw goods	13,023.53
Tobacco	1,863.23
Toys	1,979.52
Wool, wool tares, and woolen goods	2,506.40
Yarns, mohairs, shawls, and mufflers	3,398.82
Sundries	12,623.36
Total	466,535.08
Total for same quarter in 1893	380,290.15
Increase	86,244.93

Glauchau.

Buttons and crochet covers	753.11
China ware and porcelain	445.47
Dress and piece goods	610,877.58
Gloves (leather) and glove leather	11,957.00
Hosiery:	
Cotton	112,752.16
Silk	5,480.73
Woolen	545.96
Underwear	928.02
Yarns, mohairs, shawls, and mufflers	5,340.57
Sundries	489,37
Total	749,569.97
Total for same quarter in 1893	261,360.44
Increase	488,209.53

Guben.

China ware and porcelain	1,012.27
Dress and piece goods	53,277.03
Glassware	25,758.87
Linen goods	109,530.46
Ozocerite	3,805.12
Total	193,383.75
Total for same quarter in 1893	112,328.82
Increase	81,054.93

Hamburg.

Albumen	2,307.04
Animals (birds)	1,285.20
Baskets (cane ware)	59,967.64
Books and printed matter	235.28
Bristles, hair, and brushes	30,722.58
Cement, portland	116,081.61
Chemicals, drugs, etc	169,405.52
Coffee	$130,312.71
Gutta-percha	41,846.44
Hair cloth	15,845.68
Herrings	8,687.40
Hides and skins	74,377.19
India-rubber goods	260,612.05
Instruments, musical	1,482.15
Ivory	23,877.45
Leather goods	6,099.04
Metal wares and machinery	14,482.32
Paper ware	8,088.55
Provisions (vegetables)	11,282.87
Rags, jute bagging, and pulp	54,790.37
Seeds, plants, and fruits	105,128.18
Sheep guts and rennets	5,908.51
Sugar (raw, beet, and refined)	652,247.63
Tobacco	1,942.92
Willow wares and wood	3,867.66
Wines and liquors	7,532.56
Wool, wool tares, and woolen goods	22,039.01
Sundries	23,195.95
Total	1,853,651.48
Total for same quarter in 1893	1,692,868.41
Increase	160,783.07

Hanover.

Ammunition	2,319.62
Animals (birds)	27,467.88
Asphalt	3,090.90
Books and printed matter	305.54
Cement, portland	35,281.37
Chemicals, drugs, etc	16,764.56
China ware and porcelain	1,935.46
Colors and oils	3,758.17
Dress and piece goods	17,271.47
Feathers and downs	4,282.34
Gloves (leather) and glove leather	6,341.31
Grease	7,227.45
Hides and skins	3,209.12
India-rubber goods	13,532.82
Instruments, scientific and optical	303.59
Leather goods	4,537.15
Lithographs and engravings	1,652.42
Rags, jute bagging, and pulp	40,024.53
Straw goods	322.22
Sugar (raw, beet, and refined)	256,547.24
Wool, wool tares, and woolen goods	4,577.32
Sundries	11,059.40
Total	461,811.88
Total for same quarter in 1893	428,020.33
Increase	33,791.55

Leipsic.

Books and printed matter	143,169.19
Bristles, hair, and brushes	54,118.12
Buttons and crochet covers	4,368.52
Chemicals, drugs, etc	95,582.97
China ware and porcelain	2,268.56
Chromos and photographs	12,556.14
Fruit juice	6,029.86
Furs	246,493.00

* Dresden, a consulate-general, is included for purpose of comparison.

Gloves (leather) and glove leather	$68,990.57
Instruments, musical	23,357.45
Metal wares and machinery	8,669.91
Sugar (raw, beet, and refined)	44,145.85
Wool, wool tares, and woolen goods	286,382.79
Sundries	3,889.26
Total	1,000,022.19
Total for same quarter in 1893	598,418.75
Increase	401,603.44

Magdeburg.

Animals (birds)	3,458.32
Chemicals, drugs, etc	802,701.71
Chicory	2,531.58
China ware and porcelain	3,236.93
Fruit juice	1,711.45
Gloves (leather) and glove leather	89,081.49
Instruments, musical	2,423.51
Manure salt, kainit, etc	486,069.76
Metal ware and machinery	850.76
Paper ware	2,649.92
Potatoes	2,344.68
Saccharine	10,439.87
Seeds, plants, and fruits	59,106.02
Sauerkraut	7,084.05
Sugar (beet, raw, and refined)	779,789.75
Total	2,253,471.80
Total for same quarter in 1893	1,608,491.16
Increase	644,988.64

Plauen.

Carpets (covers)	14,008.30
Dress and piece goods	232,896.84
Hosiery:	
Cotton	65,532.05
Woolen	388.89
Instruments, musical	148,557.37
Laces, lace curtains, and embroideries	444,407.26
Ready-made clothing	3,735.39
Shell goods	2,132.88
Yarns, mohairs, shawls, and mufflers	3,333.93
Sundries	640.40
Total	915,633.31
Total for same quarter in 1893	384,201.55
Increase	531,431.76

Stettin.

Amber goods	14,416.34
Arsenic	3,157.37
Bristles, hair, and brushes	29,591.73
Cellulose	654.19
Cement, portland	43,514.11
Chemicals, drugs, etc	7,751.94
Glucose, dextrine, and potato flour	23,159.93
Hemp and flax	29,627.88
Herrings	11,989.19
Ozocerite	8,019.35
Paper ware	6,184.89
Provisions (vegetables)	5,311.66
Rags, jute bagging, and pulp	26,280.85
Seeds, plants, and fruits	45,129.22
Sugar (raw, beet, and refined)	$200,049.28
Wax	2,811.52
Zinc and zinc dust	1,628.28
Sundries	6,607.56
Total	465,885.29
Total for same quarter in 1893	1,713,210.26
Decrease	1,247,324 97

Total from Berlin and consulates thereunder.

Albumen	17,804.54
Albums	12,371.60
Amber goods	14,416.34
Ammunition	2,319.62
Animals (birds)	64,736.11
Arsenic	20,000.30
Artificial flowers	65,573.34
Asphalt	7,252.40
Astrakhan	1,336.04
Baskets (cane ware)	62,121.23
Books and printed matter	185,089.44
Bristles, hair, and brushes	118,556.82
Buttons and crochet covers	15,553.21
Carpets (covers)	14,008.30
Cellulose	19,749.64
Cement, portland	202,027.09
Chemicals, drugs, etc	1,362,780.62
Chicory	2,531.58
Coffee	130,312.71
China ware and porcelain	100,920.54
Chromos and photographs	41,558.82
Colors and oils	83,924.03
Dress and piece goods	1,026,712.27
Fancy feathers	1,755.70
Feathers and downs	4,282.34
Fruit juice	79,741.31
Furs	246,493.00
Glassware	101,731.96
Gloves:	
Cotton	64,154.09
Silk	77,488.80
Woolen	31,989.22
Leather, and glove leather	637,678.46
Glucose, dextrine, and potato flour	62,758.99
Glue (leather)	5,588.23
Grease	7,227.45
Gutta-percha	41,846.44
Hair cloth	15,845.68
Hemp and flax	29,627.88
Herrings	20,676.59
Hides and skins	96,639.98
Hosiery:	
Cotton	1,533,837.24
Silk	23,734.40
Woolen	15,409.91
India-rubber goods	274,144.87
Instruments:	
Musical	182,192.68
Scientific and optical	25,654.69
Ivory	25,206.62
Lanoline	9,174.97
Laces, lace curtains, and embroideries	456,361.54
Leather goods	14,219.33
Linen goods	427,566.44

Lithographs and engravings	$2,269.08
Manure salt, kainit, etc	499,266.86
Metal wares and machinery	58,552.69
Minerals (mica)	1,216.98
Ozocerite	11,824.47
Paintings	8,558.55
Paper ware	139,157.99
Potatoes	2,344.68
Provisions (vegetables)	27,489.17
Rags, jute bagging, and pulp	208,194.96
Ready-made clothing	19,109.31
Rice and rice flour	435,530.24
Saccharine	10,439.87
Seeds, plants, and fruits	211,879.03
Shell goods	2,132.88
Sheep guts and rennets	19,086.09
Sauerkraut	7,084.05
Straw goods	14,786.67
Sugar (raw, beet, and refined)	3,479,702.54
Tobacco	$95,082.36
Tinfoil	6,006.80
Toys	3,589.92
Trimmings (beaded ornaments)	182,037.20
Umbrella sticks and handles	3,715.64
Underwear	17,964.18
Upholstery goods	13,487.34
Wax	2,811.52
Willow wares and wood	28,233.65
Wines and liquors	52,053.28
Wool, wool tares, and woolen goods	335,709.53
Yarns, mohairs, shawls, and mufflers	48,107.79
Zinc and zinc dust	50,566.22
Sundries	150,835.18
Total	14,161,662.13
Total for same quarter in 1893	11,982,807.34
Increase	2,178,854.79

MEXICO—MESSAGE OF PRESIDENT DIAZ.

Under date of April 2, 1895, Mr. E. C. Butler, secretary of legation at the city of Mexico, transmits to the Department a translation of the semi-annual message of President Diaz to the Mexican Congress on April 1. The following extracts are given as illustrative of the political, commercial, and industrial development of Mexico:

The negotiations between Mexico and the United States, initiated in 1886, in connection with the attempt of that Government to subject to its dominion the islands of Arenas, Perez, Chica, Pajaros, Cayo Arenas, and Triangulos del Oeste, situated in the Gulf of Mexico, opposite the peninsula of Yucatan, where guano deposits had been discovered by some citizens of the United States, have terminated satisfactorily for the Republic, Mexico having submitted proof conclusive that the islands aforesaid form an integral portion of the territory thereof. The Government of Washington, acting with prompt consideration, declared that in future the islands aforesaid should not be considered as properties of the United States.

This decision was made public through a circular of the Department of the Treasury under date of the 21st of November last.

Health conditions in this capital have remarkably improved. Typhoid, which, every year, is most frequent during the winter, during the closing winter has perceptibly decreased. General mortality has decreased to such a degree that the figures recorded during the last four months of the year 1894 have only been approached by the figures of fourteen years ago, when the entire population was very much smaller than at present. Regulations for the services of disinfection of the city have been issued, such services being entirely gratuitous for families which, by reason of poverty, are unable to meet such expenses, while, on the other hand, the schedule of prices is so moderate that they are within the reach of any one of even limited means.

With respect to the capital of the Republic, fresh impulse has been given to the public improvements, to wit, the construction of the slaughterhouse, the penitentiary, and the obtainance of water in sufficient supply for the necessities of the city. The city council is meeting its pecuniary obligations, and does not slight any of the important branches confided to its administration. The Monte de Piedad (the national pawn shop) and the establishment of charity are objects of marked attention upon the part of the Executive, and continue to lend to the poor classes their humanitarian services.

Public instruction still receives the special and well-merited attention of the Executive. Statistical information of the scholastic year last past shows a considerable increase in the number of pupils matriculated and approved, not only in the national school, but also in the municipal and private schools which have accepted the official programme or curriculum. From these figures may be obtained a most pleasing prophecy, and one that is welcome to all good wishers of the Republic, that education is largely in demand, and that the precepts of the laws relative thereto are voluntarily and patriotically complied with. The normal schools, especially those of lady teachers, have been obliged to close their books and receive no more applicants on account of the paucity of their accommodations. The Executive is anxiously engaged in an endeavor to give wider scope to these schools. The Female Normal College set up during the month of February a meteorological observatory, while in the Male Normal College, in celebration of the eighth anniversary of its founding, were inaugurated shops for hand work, and also a new and well-adapted audience room.

An order has been sent for instruments and mechanical devices needed in the School of Arts and Industries for Men, which, as is the case with the Industrial College for Women, must exercise beneficial influence upon the condition of the working classes, so worthy of protection and aid.

The School of Agriculture is receiving new pupils, furnished through the conduct of the various States of the federation. There has been established therein a course of veterinary surgery, the Government being enabled to do away with the difficulties by reason whereof this course has been closed, and thus provision is made for a system of education which promises to be useful and well paying.

In order to impart an eminently practical character to the provisional examinations conducted in the School of Engineers, the necessary provisions were adopted, in accordance with the design of the various curricula in the school.

The Executive, being determined to omit no effort nor any expense which might redound to the honor of the nation and to the advantage of the studious youth, has created an anatomia-pathological museum, with the double purpose of furnishing a new and efficient element of instruction to the School of Medicine, and also for the purpose of appreciating worthily the scientific labors which are to be presented to the second Pan-American Congress when it meets in this capital in 1897.

The mining industry is very active. Some idea may be formed thereof from the fact that during the period covered by this report the mining agents have received and recorded 2,977 petitions for mining properties, whose superficial extent exceeds 1,378 hectares (1 hectare= 2.471 acres). During the same period there have been issued 559 titles for mining properties, covering an area of 3,814 hectares. The total number of titles issued since July, 1892, when the new law went into effect, up to and inclusive of the middle of last month, reaches 2,114, covering 13,357 holdings of one hectare.

The development of the mining industry has had, as an immediate consequence, the creation of large metallurgical departments. Some of these have been founded under concession from the Government; and, as is the case with those of San Luis Potosí, Monterey, and Durango, they are running in perfect order. About the present time, it is expected that the large smelting works of Aguas Calientes will be opened up, which, by reason of the capacity thereof and the quality of the works, will be one of the most important in the Republic.

Agricultural interests are also progressing. The planting of coffee and other agricultural products is increasing.

The law with respect to the improvement of waters lying within the federal jurisdiction, as issued in June, 1894, is productive of the best results, for many persons have repaired to the Department of Fomento in request of concessions to use such water for irrigation or for mechanical power. The promulgation of this law was very opportune, on account of the development required in the Republic during the present period of the mining, agricultural, and fabrile industries.

The new law of May 26 last, touching the transfer of public and national lands, does not only efficiently contribute to the formation of new properties offering increased facilities over the old in the acquirement of said lands, but has created the method of legitimatizing such landed properties which are weak in point of primary titles or whose titles are in any point defective. The law went into effect July 1, and on that same day there were established in various States of the Republic the land agencies; while at the capital of the Republic, there was opened an office of general registry of the properties as corrected under the same law. The agencies are now engaged in passing upon denouncements of public lands, and individuals are beginning to repair to the Department of Public Works, some as petitioners for the excess lands and others in the interest of inscription of properties in the general register.

During the last six months, there have been conveyed by denouncements in accordance with the law of 1863, and by excess of lands and sale of surveyed lands, 211,177 hectares, while, in compensation of survey expenses, 268,800 hectares have been granted to surveying companies.

The matter of colonization of lands in the Republic occupies the special attention of the Government, and, although the law relative thereto is all comprehensive, the immigration of real colonists on a small scale, due principally to the difficulties surrounding the practical enforcement of the law, and also to the preference of the Government, form a conservative action in the premises, in order to avoid an undue flush in immigration. Nevertheless, it may be stated that the colonies already established, alike by the Government as well as by private individuals, are on a satisfactory footing. On account of the importance thereof, the Italian colony "Manuel Gonzalez," founded by the Federal Government during January of last year, has been established as a municipality of the State of Veracruz.

The committee on ways and means of the Sixth International Geographical Congress invited the government, through our legation at London, to participate in said congress, and also to take part in the geographical exposition which should be opened at the same time. The Government accepted the invitation, and has appointed already two delegates, resident at that city, reserving the right to send others, and has offered to participate in the exposition, sending thereto samples of work made in this Republic, and which have so remarkably increased lately.

On the 23d of October, a new postal code was issued which modified in various important points that issued in 1883, and which took effect the 1st of January, 1894. The ten years' practical demonstration served to modify the code in force. Under the tariff established under the new code, important reductions have been made in the price of postal cards, publications, samples without value, and certified packages.

The price on postal packages having been reduced to a moderate amount, this useful service has become quite prevalent between points linked by railroads, wagon roads, or steamers.

The service of postal drafts is now established as between eighty-two offices; and, their importance being so manifest, it will be soon necessary to increase the number of post-offices authorized to issue the same. The service of postal insurance, under the conduct of an honorable company, is beginning to be well known; and it now transports packages and objects of value through the mails, the value whereof is guarantied in case of loss. The general movement of objects transported through the mail offices is on the increase. In new contracts made with various lines of navigation for maritime postal service, some of the companies have obtained large advantages. Owing to the franchises in the point of freight and discount on the schedule prices for objects transported on account of the Government, compensation is made for such service only among the foreign lines.

A contract has been made for steamer service between Guaymas and La Paz, touching at Santa Rosalia and Mulegé, which ports have improved in commercial importance since they have thus had granted to them the means of regular and frequent communication. This service is very moderate, only $200 being paid for each round trip. Very soon will be submitted to the Chambers, the renewal of contracts with companies (the German Imperial Mail and the Har-

rison Line) wherein the advantage has been obtained of 10 tons free freight of Governmental effects for each trip and on each steamer.

The contract for the navigation of the Grijalva, Usumacinta, and Palizada rivers having been transferred to a new company, service has been begun with full regularity, and has given excellent results.

In the important matter of telegraphs, various improvements have been realized, and new lines have been constructed. Of the latter, I will only specify, on account of its special importance, the telegraph uniting Tacotalpa with Tenosique, in the States of Chiapas and Tabasco, passing via Palenque and Monte Christo, measuring 302 kilometers (187½ miles) and giving us another way of communication with Guatemala. Since September last, there have been constructed 910 kilometers (565½ miles) of new lines, and seventeen offices have been opened to public service; while 42,552 kilometers (26,442 miles) (the extent of the telegraph net in the Republic) have been repaired and conserved.

The heavy trunk lines of railway having reached the limit of their development, those for which more recent concessions have been given are advancing in construction rather slowly, on account of the difficulty superinduced by the rate of exchange abroad. Thus it is that, all along the lines developed, preference is made rather to the preservation and improvement of the roads, and foreign orders are restricted essentially to such purpose. Nevertheless, the spirit of public improvement is manifest with regard to branch railroads which furnish to agricultural centers hitherto undeveloped the means of exit for their productions and gives increased efficiency to the principal lines and their consequent feeders.

The railroads of the federal district have been extended to Naucalpam and to the colony of San Rafael, and also double tracks have been laid to Mexicaltzingo. The railroad from Izucar to Acapulco will shortly open traffic as far as Tlalcualpican. The International has extended its line from Reata to Monterey, and the railroad from Monclova to the Pacific has now approved more than 470 kilometers (292 miles) of its line. The railroad from Merida to Campeachy is now pushing work on its surveys on the earthwork, while the plans for linking that line from Merida to Progreso have been adopted, thus facilitating export transactions of the peninsula. A company of the State of Nuevo Leon has constructed a line for the development of various mines and will tap the Mexican National and Monterey and Gulf railways. The Nautla Railway has continued its labors of construction from Huisissilapan to Tezuitlan. Grading is being rapidly conducted on the Cuernavaca Railway, and the branch to Coajomulco is almost finished. The best proof that the spirit of public enterprise is not in decadence, despite the crisis through which commercial circles are now passing, is that, during the last six months, the Executive has granted nineteen concessions for the establishment of railroad lines in different parts of the Republic. In the case of the National Tehuantepec Isthmus Railway, special care has been taken for the improvement of the line. Important repairs have been made at the ports. The Jaltepec bridge is now being reconstructed upon a definite plan. A large part of railroad bed has been reballasted, in order to secure better levels, and a large consignment of sleepers has been received.

The rolling stock has been increased, and shortly cars will be added which have already been ordered. The proceeds of traffic have been increased since the inauguration of complete lines, even to four times the former amount.

Work on the drainage of the Valley of Mexico has continued without ceasing and is almost concluded. The tunnel is entirely constructed throughout to an extent of 10,022 meters (32,714 feet). The excavation up to the present has amounted to 10,000,000 cubic meters (353,160,000 cubic feet).

The Government has under study various plans for the improvement of the water system of the valley. Water belonging to the Ascension Hacienda has been purchased for the purpose of irrigation of the Chapultepec forest, and is now actually in use, although all the work of improvement has not been yet concluded on the conduit pipes.

With respect to the harbor works at Veracruz, it may be said that a part of the sea wall parallel to the coast, along the Caleta Reef, is now constructed. The Government is very

desirous of completing the construction of the works, in order to give to the port the facilities which are so much desired.

A commission of engineers has been appointed to examine the condition at Coatzacoalcos and Salina Cruz, in order to secure the data necessary for the purpose of improvements at those respective ports, which will be of great importance for international traffic, as contemplated, over the Isthmus Railway.

In the matter of light-house service, in addition to the works of improvement which are constantly under way, improvements have also been secured in a number of lights that now illuminate the coasts.

The financial condition of the country and of the Government has notably improved since the last time I had the honor to address Congress.

Agricultural and industrial products, as well as the current of mercantile transactions, have revived somewhat, as can be indorsed by statistical data and the information as to imposts which the Treasury Department so carefully and promptly collects.

The proceeds by import duties, compared with those of the last fiscal year, reached their minimum during July and August, 1894; however, since the month of October, they have had an upward tendency, so much so that the proceeds from such import duties exceed by almost $750,000 proceeds during the like period of the last fiscal year. Likewise, there is an increase in internal-revenue stamp collection, and the revenue derived during the first eight months of the current fiscal year gives promise for the entire year of proceeds which will far surpass the calculations presented to Congress for appropriations. The other imposts have been collected under normal conditions, as imposed in the bill itself.

With respect to expenditures, we would have nothing to regret were it not that the expense of placing money abroad had been higher than the amounts as specified in the bill of appropriations. Nevertheless, this excess is far from being alarming; for, while the amount thereof is not large, the rate of exchange has ceased in its upward movement and there is a tendency toward a decrease.

You will soon have before you the bill of appropriations for the ensuing fiscal year. You will doubtless find in the data and statements recently communicated to the committee on appropriations, which prove the generally satisfactory condition of the situation, bases of conjecture even more ample than those advanced by the Executive four months ago in his judgment upon the public revenues. The data and information thus offered will aid you in establishing more exactly the desire of balancing receipts and expenditures.

As a consequence of the authorization granted to the Executive to establish imposts upon alcoholic liquors during the fiscal years of 1893 and 1895, the application of the law of December 10, 1892, which placed a stamp duty upon said liquors, was suspended. Now, as there are but three months for the expiration of the term of such authorization, it will be indispensable, unless it be judged expedient that the said law of 1892 go into effect, to issue a decree fixing definitely conditions of said impost. To such end, there will be submitted to you at once by the Treasury Department the respective proposed regulations. Allow me to recommend decision upon the matter, in order to avoid the serious consequences which might arise in the collections of imposts for the short time lacking for the ending of the ensuing fiscal year.

It is very satisfactory to me to advise the Chambers that the obstacles which had presented themselves as against the leasing of mints and the surrender of their individual charters have disappeared recently, and that therefore the Treasury Department can shortly count upon important revenue from the said establishments. The domestic floating debt has been considerably reduced, while the National Bank of Mexico does not owe on account of its loans on account current more than $1,000,000, and, on account of loan of $2,500,000, it only owes the Government $500,000.

All other branches of the Treasury Department are in good running order. An effort has been made to introduce therein all necessary economies, also systems of security in the management of funds and modifications in organizations and respective regulations.

However, it is not the purpose of this message to go into details, and, furthermore, it would be superficial, as the Treasury Department will give all the facts in detail.

Convinced that the development to advantage of national industries where susceptible can not take full effect while they are handicapped by the interstate imposts, which, in various States of the Union, still prevail, the Executive considers the moment opportune most unhesitatingly to recommend constitutional reform which will eliminate this last vestige of the ancient and discredited system, thus insuring free and untrammeled circulation of merchandise throughout the limits of the Republic. This reform is now surrounded by much more probability than hitherto, not only because it is demanded most imperiously, but also because there are a number of States which have already abolished this system, while in almost all the other States very active preparations have been made for such abolishment. The Department of the Treasury has under preparation and will submit to you opportunely measures bearing thereon.

President Diaz describes at length the boundary dispute with Guatemala and the negotiations which led to an amicable settlement.

SANTO DOMINGO—MESSAGE OF PRESIDENT HEUREAUX.

I transmit herewith a copy of the annual message of President Heureaux delivered at the formal opening of the Congress of the Dominican Republic (Santo Domingo), in this city on the 20th instant.

ARCHIBALD H. GRIMKE,
Consul.

SANTO DOMINGO, *March 23, 1895.*

SYNOPSIS OF THE MESSAGE.

Following is a synopsis of President Heureaux's message:

If I am to use to you the language befitting the fidelity with which I am serving the country, I can not venture to assert that the state of our finances is flourishing. This could be foreseen last year, owing to the monetary question, even without taking into account the fall in the price of tobacco and the effects of the cyclone of September. Still, as the country is going on steadily in its march of progress, we notice that neither these causes, nor the duty placed upon our sugars in the United States, nor our other drawbacks have had as serious effects as might well have been expected.

It may be seen, for instance, that the difference in the value of exports for 1893 and 1894 is $274,845.56 in favor of 1894; and of the imports, $51,659.48. The difference in the amount of the import duties in favor of 1894 is $575,831.69; so that, in spite of the decrease in the amount of the export duties, the revenue from customs in 1894 exceeded that of 1893 by the sum of $536,566.70.

One of the principal points to which the administration has devoted the greatest attention was the maintenance of the credit of the Republic abroad by prompt payment of the interest on the debt, and in this it has been successful.

Other expenses have been necessarily incurred in the settlement of matters disturbing public order and the security of the Republic; and these have increased the expenditures to such an extent that, although the revenues attained the sum of $2,759,939.02, we still have a deficit to meet, either by having recourse to economies not prejudicial to public order or to fiscal measures not affecting the public credit.

As I have previously announced to you, my Government, on learning that the legislative power of the United States of America had passed, on the 13th of August, 1894, a tariff law imposing a duty of 40 per cent ad valorem upon our sugars, which measure terminated, in fact and in law, the commercial convention of June 4, 1891, between the United States and the Dominican Republic, deemed it necessary to decree the expiration of that convention, and to declare in force from October 1, 1894, the customs duties placed upon United States products which were exempt from duty under that convention, and to notify the United States Government to that effect.

At about the same time, and having in view the exceptional circumstances through which the country was passing, a decree was issued, as a temporary measure, deducting 25 per cent from the appraisement of various articles of consumption, declaring others free of duty, and establishing a fixed duty on others.

Subsequently, on the 20th of October, 1894, for the reasons recited in the decree, to wit, in order to make a just apportionment of duties among the articles which were paying, under appraisement or valuation, more than those the duty on which is fixed by the tariff on imports, and to remedy abuses which were becoming too prejudicial to the treasury, a fixed duty was laid upon various articles which were not previously subjected to a fixed duty, and other articles, especially those intended for agricultural purposes, were declared exempt from duty.

As both these measures were of great importance, and as they come within the province of indirect taxation, I trust that you will see the necessity of their adoption, and that you will approve them in the interest of the public service. The first of the two decrees mentioned was amended on the 6th of December by repealing, from January 1, 1895, the free entries and exemptions granted in its first article.

In this connection, I have to inform you also that, on a visit to the provinces of the Cibao last October, I found it evident that, owing to the great depreciation of tobacco in the German markets, a large number of farming families were on the point of losing their means of subsistence, and that many of them would be reduced to utter destitution unless some steps were taken to impart a temporary value to that product. I therefore thought it expedient to free it from export duties for the remaining portion of the year 1894, and a decree was issued, by the advice and consent of the Secretaries of State, confirming the temporary measure which I had adopted as a matter of urgency in Cibao.

I can not venture to assert that measures of this kind can contribute to raise the price of a product of such importance as our tobacco. Such a measure can be, at most, merely a temporary help; but, as the fate of a large number of laborers was at stake, I had no alternative.

It is my opinion, however, that our tobacco, which is one of our most promising products, has no competition to fear, on account of its exceptional quality, which is equal to the best known, providing the plant is carefully cultivated. In pursuance of the views which I have just expressed, it is the earnest desire of the Government to carry out the decree approved by Congress on the 23d of May, 1894; and my object in taking the step which I have reported to you was chiefly to encourage the producers and to make them understand that any means employed hereafter to gain for tobacco the important place in public esteem to which it is entitled will only be, in the first place, for their benefit, and, in the second, for that of the community.

CHICORY AS A BEVERAGE.

The history of public opinion concerning some of the most ordinary matters of life is not less curious than interesting. How much some of our favorite articles of diet and drink were at their first introduction condemned and ridiculed, we are apt to forget in the daily employment which we now make of them. Shortly after 1650, both tea and coffee were for the first time

employed in England; not until many years afterwards, had they become sufficiently appreciated to merit the title of popularity. During this period of novelty, both these now most common drinks suffered the opposition of scientists and the invectives of popular condemnation.* Only after long and persistent efforts, were their advocates successful in demonstrating the folly of these ungrounded prejudices and securing a fair trial for tea and coffee. Such reminiscences form only a single illustration. How frequently, for want of knowledge or by force of prevailing false ideas, the introduction and employment of many of nature's gifts are retarded. The people of this age, however, are more disposed than their ancestors to investigate and to deliberate before forming a decisive judgment. The more this spirit of impartiality is maintained, the less are we likely to formulate false decisions, which, in a later generation, are sure to be reversed. We must, however, in the consideration of any new question divest ourselves of any earlier formed predisposition; especially is this freedom of thought necessary where the object is suffering from the disadvantage of an ill name or misuse.

The subject of this report—chicory—has, until the present time, been peculiarly unfortunate in this respect. By reason of its use in the United States as an adulterative ingredient by unscrupulous dealers, the American public has condemned it without apparently realizing its natural properties, its legitimate uses, and its claims to public consideration. Not only has chicory without doubt been employed as an adulterant for coffee and sold under that name, but even other vegetable products, undoubtedly injurious to health, have been confounded with the chicory root. A former brief report upon this subject† called forth a criticism in a leading American magazine, where once more expression was given to the common error that chicory is only fit for an adulterant and was classed with mixtures of "bran, flour, molasses, and even sawdust." It might be interesting to know that the most common adulterants of chicory in Belgium are beet roots and acorns. Indeed, last year, there were shipments of acorns from this consulate to the United States; probably for a purpose very readily guessed.

It must, however, be observed that the Belgian Government considers chicory a perfectly legitimate drink, on an equality with coffee and chocolate, for the adulteration of coffee, chocolate, and chicory and the sale of such adulterated articles are equally forbidden and severely punished by law.

The purport of this report, therefore, is not to advocate the misuse of chicory, but only to fairly consider its legitimate employment. The object is not in the least to urge its substitution in the place of tea or coffee, but rather to show the harmlessness of its use, where tea and coffee may not for any reason be drunk or where the economy of any less expensive drink would give it an advantage. This last consideration is especially strong among the poorer classes of Belgium and might recommend it to some in our own

* For a brief account of the introduction of tea, coffee, and chocolate into England, see Disraeli's Curiosities of Literature, Vol. II, p. 317.

† "Chicory in Belgium," CONSULAR REPORTS No. 169 (October, 1894), p. 157.

country. Another thought—that of its cultivation in the coast regions of the middle Eastern States—has also been suggested by a correspondent.

According to Junien, the chicory plant is to be classed with the *Dycotyledones monopetales*, a family of the vegetable kingdom.

From his analysis, it appears that chicory (*Cichorium*) constitutes quite an interesting species of the family of the *liguliflores* or *chicoraèces*. All its varieties are indigenous to the European Continent, and can, as we have seen, be traced back to the *chicorée sauvage* (*Cichorium intybus*) and the *chicorée endive* (*Cichorium endivia*). The former, commonly called small chicory, is especially cultivated for its leaves, which make an excellent salad. This wild chicory, so called, is a very common perennial plant in Belgium, and is frequently cultivated in gardens. It has a fusiform and tap root; its stalk grows 3 feet or more in height. It is abundant along the roads and in the pasture lands of this country. In the gardens, it develops much more, the height of its stalk often exceeding 6 feet and its leaves are larger. Very indifferent to the nature of the soil, this plant, however, prefers new and shaded ground. It is sown in the spring, sometimes in beds, but more often along the borders. It only requires watering and ordinary tillage and weeding. The green leaves only are ordinarily employed in medicine and domestic economy. For this purpose, it is necessary to cut them from time to time, thus inducing new and more tender leaves to shoot forth; the stalk, too, must be frequently cut in order to delay as much as possible the florescence. After the buds have appeared, the leaves are no longer eatable. Wild chicory is also an excellent fodder plant. Its most valuable property is its ability to grow in the worst soils, even such as are barren, chalky, or clayey. Thanks to its long taproots, it can resist dryness in light soils, but it prefers deep soils, rich in calcareous matter and of an average consistence. If given reasonable care, the first crop can be gathered in early autumn, and, generally, two later harvests can be cut. Although cattle may be pastured on this plant, it is generally preferable to cut it for consumption in the stable, where it may be mixed with other fodder and thus avoid the risk of imparting to the milk and butter a bitter taste. Almost all cattle eagerly hunt the plant; cows, which at first dislike it, rapidly become accustomed to its taste. By reason of its bitterness, it acts as a tonic, and animals who feed upon it are much less exposed to cutaneous diseases. Swine are especially fond of the roots.

Among the varieties of wild chicory just described, the most important is chicory with large roots, known commonly as coffee chicory. It is a perennial plant, whose bulky tap and fusiform root by torrefaction acquires a bitter flavor and an aroma which is not unlike that of sugar converted into caramels. This is the variety which is daily increasing in commercial and industrial importance. In Belgium, it largely replaces coffee in the lower ranks of society. West Flanders, in the districts around Courtrai and Roulers, is its principal home. The method of its cultivation greatly resembles that of the beet. From information kindly furnished me by the principal exporters to the United States, I am enabled to give the various stages

from the seed to the prepared condition of the root ready for export or even to the completed manufacture of the granulated chicory.

The seeds, which are very small, are sown by a hand drill, three rows at a time, during the months of April and May. They must be sown at a distance of about 15 inches apart. The amount of seed required per acre is from 3½ to 4½ pounds. There are several varieties, or rather subdivisions, of this variety. The two chief ones are known as the wide-leaved chicory (*à larges feuilles*) and the eel-headed chicory (*frisées à têtes d'anguilles*), of which the latter is considered the best. The seed is obtained by replanting in the month of March, the old stalks being dug out during the preceding autumn. In the course of a few weeks, these go to seed; each plant gives about 300 grains of seed; another estimate gives 530 pounds of seed per acre. The normal price of seed is 23 to 27 cents per pound, although it is generally very difficult to obtain unless ordered long in advance, as each cultivator is in the habit of selling all his roots except just sufficient to reproduce seed for his own private use. A temperate climate is required. A vigorous soil, even slightly clayey, produces the best chicory, with the heaviest roots. Sandy soils also are good, but the roots are generally lighter. The soil must be plowed several weeks in advance. In case of a dry season, great care must be taken. As soon as the plant appears, weeds must be diligently removed.

About 60,000 plants are raised per acre. A crop of from 11 to 14 tons of green roots is produced per acre. The harvest takes place in October and November. The roots must be immediately washed and dried, and then may be preserved for fifteen to eighteen months. The seeds, if put in a dry place, may be kept for seven years. The plant has no known diseases, but is subject to the attack of a worm, which eats the roots. His plan of operations, however, is very regular, as he proceeds from one root to the next in a straight line. The leaves immediately wilt, and, by this circumstance, the enemy may be readily discovered and exterminated. The leaves of the plant generally grow in a small tuft, are narrow, and do not exceed 10 or 12 inches in height. The roots are carrot shaped, slightly larger, dark gray in color on the exterior and nearly dead white in the interior. The roots are dried on perforated racks in kilns by means of coke fires, and then are cut by machines into pieces of about one cubic inch. These are known in common as *cossettes*, and chicory is generally exported to America in this form. Afterwards it is ground and sold in powder under the name of granulated chicory. Almost all the grinding and preparation from the *cossettes* is now done in the United States.

The expenses connected with the cultivation of the plant are very moderate. Field laborers here earn 2 to 2½ cents per hour. One of my informants places the cost, without rent or fertilizers, at $22 to $24 per acre. Another states that the selling price of the crop from one acre after washing and prepared for drying, including profits, amounts to $60 to $64 per acre. Still a third gentleman gives me the following statement: An acre produces an average of 12 tons of raw chicory roots, worth $5 per ton, or a

total value of $60 per acre. The expenses he gives per acre are, seed, preparation of the soil, and cleaning, $17.50; fertilizers, $17.50; weeding, warehousing, and washing, $8.75; rent of land and taxes, $8.75; total, $52.50, leaving an average profit of $7.50 per acre to the cultivator. The amount of this profit, however, varies according to rent, price of labor, and fertilizers. In America, of course, it would be much less than in Europe. The average cost price to the person who dries and cuts the roots into *cossettes*, as we observe, is $60 per acre—that is, he pays $60 for 12 tons of raw roots; in drying, this weight is reduced to one-fourth, or 3 tons. These, after cutting into *cossettes*, he sells at an average price of $31.50 per ton, or a total of $94.50, realizing an increase to cover expenses and profit of $34.50 on the produce of an acre, or $11.50 profit per ton.

Reverting again to the history of this plant, we learn that it was first employed as a drink on the European Continent during the great blockade of Napoleonic times, when tea and coffee could not be easily procured. Its use seems to have originated in Holland, and to have spread from there to other nations. Upon the restoration of peace, it continued to be used by many in preference to coffee, although a mixture of two-thirds coffee and one-third chicory is generally preferred. The ordinary price of granulated chicory in this market is 3 cents per pound, or about one-ninth of the price of coffee, which sells here at 28 cents per pound for an average quality. It does not posses the aroma or exciting qualities of coffee, but when drank with milk makes a very palatable beverage. It can not be said to have any injurious effects, while many advocate its use as a positive remedy for dyspepsia and indigestion.

It must again be repeated that in all continental countries chicory is sold as chicory, and protected by law against adulteration and fraud. Only recently, a royal decree has been promulgated in Belgium declaring the essential qualities of pure chicory, requiring all packages to be legibly marked with the name, and forbidding, under heavy penalties, the sale of any adulteration as the genuine article. A similar law exists respecting coffee. If such legislation existed in the United States, the prejudice against chicory would soon disappear, when people realized that they received what they thought they were buying.

Forty years ago, chicory was little known in France; at present, it is in general use. Once the real use of the article in its purity is known in the United States, the consumption will, without doubt, increase in the same proportion as it has done during this century in Europe. Its cheapness, without the intervention of any deleterious effects, must eventually recommend it to our use. We only need to consider its large employment abroad, the method of its cultivation and preparation, to enable us to determine that there is no substantial reason for the unfounded prejudice which has heretofore existed in our country against chicory.

HENRY C. MORRIS,

GHENT, *December 11, 1894.* *Consul.*

AMERICAN INTERESTS IN ROUEN.*

One of the most interesting and encouraging items in the imports from the United States, is that of the large quantity of machinery brought principally to furnish the plant for the American Petroleum Refining Works of Bedford & Co., at Rouen. I am well assured that the cost of this machinery (duties included) was 15 per cent less than it could have been purchased for in England or France.

The amount of machinery imported from the United States is returned as about 98 tons. Nineteen of Worthington & Co.'s pumps are not computed in this account.

The cotton machinery is all brought from England, the French machinists making no effort to compete for that large trade. American small farming tools are sought after, and push the French article out of the market. The coarse, cheap French mowers and reapers, cider presses, plows, etc., sell because the Americans have found the sales too slow and have become disheartened. The Singer sewing machines manufactured in England arrive by the vessel load and crowd the French and German machines out of the market.

There is an opening for the sale of almost every sort of machinery, and every product and manufacture in which we excel. The boards of trade of our business centers should unite to establish centers where American products could be exposed and orders taken. The serious difficulty would be that necessarily the consuls would have the supervision of these depositaries, and men capable of performing these duties would be required.

There is no subject more interesting than that of the introduction of petroleum and its products. The use of refined petroleum for illuminating purposes, as well as cooking, and, more recently, as a propelling power for vehicles upon ordinary roads, has developed to a wonderful extent. This increased usé has had the usual tendency to induce capitalists to search for wells in other fields than the United States. French capital is largely interested in Russian petroleum wells. Under this patronage, petroleum oil refineries have suddenly started up in many sections of France. It was soon discovered that, from the Russian petroleum, a fair article of lubricating oil could be extracted, but the refining process produced an illuminating oil of very inferior quality. Then began a series of experiments to test the smallest quantity of American petroleum required to produce a salable illuminating oil. The public were made copartners in these experiments, with the privilege of paying all expenses and having no share in the profits.

The American firm of Bedford & Co. purchased and walled in about 18 acres of land alongside of two French oil refineries established on the banks of the Seine and the petroleum basin. They had then commenced their

* Extract from the annual report of Consul Williams; the balance of this report will be published in Commercial Relations for 1894.

works, just now completed. The nature of the soil—low and swampy—wet and frosty seasons, and the necessity of employing laborers unaccustomed to the work, retarded the completion of the refinery. They have bravely overcome all of these difficulties, and I saw this week seven of their stills, of a capacity of 650 barrels each, fully charged and working satisfactorily.

Their arrangement of the pumps and connecting pipes seemed perfect for economizing labor, and regulated the flow of the crude and refined oils by the manipulation of a lever, so as to appear almost automatic. This manner of adjustment defies competition, and saves more than 50 per cent in labor, as compared with other refining works. This work has been under the direction of one or two able practical American engineers.

The present capacity of the works is about 150,000 barrels of crude oil, making about 120,000 barrels of refined oil. Additional stills can be added as trade increases.

The French oil refineries work on a system as crude as the oil itself. Bedford & Co. have brought over during the last year a quantity of American refined oil to accustom the French people to what they might expect upon the completion of their works. The refiners were mystified and astonished. They lowered their prices and tried to improve the quality of their oil. Failing in the latter, they have placarded all conspicuous places with a notice recommending their oil to all who have a regard for their lives and do not wish to sit in darkness.

In connection with this subject, I would call attention to the fact that there are no good French petroleum or kerosene lamps, and that there is an opening for American lamps.

CONSULS IN ROUEN.

Rouen has a strong consular service, consisting of twenty consuls and vice-consuls. The British vice-consulate has been changed within a few years into a full consulate, and the office has always been committed to an able representative of that Government. He is provided with a fine suite of offices and a salaried vice-consul and clerk. An allowance is made to this consul for all of these expenses on a liberal scale.

The consul of Sweden and Norway has held his position for many years.

The Spanish consul devotes all of his time to the duties of his office. The others are well paid for the duties performed by them.

The increase of the business of the port of Rouen has been greater than that of any other port in France. American vessels find it more profitable to seek other ports, but when freights are satisfactory they avail themselves of the opportunities of this port. In case of a European war, they would flock over here.

The discharge, shipment, and sending sailors to hospitals, as well as keeping them out of prison, are important, but most generally delegated by consuls to clerks. The cultivation of trade relations, especially in exports of American goods, supersedes all of the other work. In this connection, a

knowledge to be acquired only by close study of those particular industries which exist in his consular district, with a view of informing the American manufacturer of the competition which he will meet, and kindred subjects, should constitute the greater part of his work.

This city is the seat of the prefect and of the courts. Havre has a sub-prefect, and sends all of its criminals for trial and imprisonment to Rouen. The duties of visiting American prisoners, obtaining counsel, and acting as interpreter are disagreeable and expensive tasks, and Havre supplies the greatest number for this port.

CHAS. P. WILLIAMS,
Consul.

ROUEN, *October 22, 1894.*

AMERICAN BOOTS AND SHOES IN ENGLAND.

In a dispatch to the Department, dated London, March 27, Ambassador Bayard says: "As of interest to those engaged in the preparation of leather and in the manufacture of boots and shoes in the United States, I have the honor to inclose herewith an extract from the Times of this date, which discloses the effect of the present conflict now waging in the boot and shoe trade of this country, as a consequence of which American productions are enabled to establish their superiority in the market, and owing to the admission of raw hides and skins free of duty, and to untrammeled resort to labor-aiding machinery, the enterprise and industry of our citizens engaged in the preparation of leather and the manufacture of boots and shoes in the United States are finding profitable remuneration in foreign markets as well as at home."

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THE BOOT-TRADE DISPUTE.

[From the Times, Wednesday, March 27, 1895.]

The question of American competition enters so largely into the merits of the present conflict that I availed myself yesterday of an opportunity to inspect some of the goods that have just arrived from the United States. The American manufacturers seriously challenged the English home trade last spring. The fact that a part of the colonial trade had been attracted by American manufacturers gave them confidence that some of the English home trade could be secured as well. A large variety of American-made boots and shoes was shown at the boot and shoe trades exhibition at the Agricultural Hall, London, but it then became apparent that, although the productions of Vienna and Paris were readily salable in England, the peculiar style of the American goods did not commend them to the English market. This failure, however, only led to the adoption of new methods. English-made boots and shoes were secured, together with all the necessary designs and patterns, and goods made from these designs, to all outward appearance English made, are now being imported into this country.

I have had an interview with a manufacturer, employing over one thousand hands, who had a consignment of these goods sent over. He stated that the goods were delivered free at his own warehouse door at a lower cost than that at which he could produce them in his

own factory. He could sell ten times as many of that class of goods as of any other, and customers would not know them from goods of English make. If the English manufacturers could not beat the Americans in price, the latter would now take a strong hold of the English market. He added that three-fourths of the leather used in the Leicester trade was of American tanning. Questioned as to the cost of manufacture, he stated that boots of the class imported from America would cost in making in Leicester 1s. to 1s. 1d. per pair. In America they would get the same boot made up for 8d. per pair. This saving alone would give the American manufacturers more than a working profit and enable them to compete with English manufacturers.

As to the settlement of the present disastrous conflict, the view expressed by the manufacturer was that it was possible, and ought to be arranged before work was resumed, to have a piecework statement or scale of pay for machine work based on the American principle. Such a statement should embrace but two qualities—a best and a common—and it ought to be in the power of the manufacturer to have the work finished as best or common, at his option. This would enable a manufacturer to have medium or common goods well finished, provided he paid the operative for the extra work done. The operative should be remunerated according to the amount of work he did, and not according to the value of the material to which that work was applied, or the quality of the design, or the cost of the upper.

He then proceeded to sketch a scheme for increasing the number of men engaged. The operatives, he explained, wanted to spread out the work and find something for the unemployed. That increased the cost of production and drove the British manufacturer out of the markets, both home and foreign, and, instead of increasing the work to be done, it would send the trade to America, Germany, and Austria, where there was the keenest competition. His view was that it would be much better in the interests of both employer and employed if the workmen would work only five hours per day, the manufacturers working two shifts. His firm had laid down £6,000 in American machinery, but if the machines had been worked up to their full capacity they would have had to spend only £4,000. The extra driving power required in this case added between £300 and £400 to the cost, besides increased warehouse room, wear and tear, etc. He was satisfied that if the men made the best use of their time they could do the amount of work they had been turning out in six hours instead of spreading it over ten hours. The union, however, would not sanction such a scheme at present.

The view quoted as to the value of American goods, I ought to add, was fully confirmed by one of the largest wholesale buyers in this country, and he added that he was so satisfied with the samples that he had placed large orders with American firms.

PROPOSED TARIFF LAW FOR BELGIUM.

Minister Ewing, in a dispatch dated Brussels, March 22, 1895, says:

Until now the efforts at legislation on the subject of tariff duties on flour have not assumed such definite shape as to make it the subject of a communication to the Department. For fifteen years and more there has been in this Kingdom much discussion and agitation upon the subject of import duties, each interest demanding protective legislation. Little by little, the Government has yielded to these demands. In 1887, a small import duty was imposed on live stock and meats.

At the last session of Parliament, a bill (*projet de loi*) was presented by the Government, by which it was proposed to levy tariff duties on a large number of articles, including flour. This bill failed in its passage, owing, as I think, to the opposition of a part of the Government's majority, especially the Antwerp deputies. That seemed, for the time being, to be the end of the project, but since the assembling of the present Parliament, many petitions from agricultural localities have been presented requesting taxation on all agricultural products not alimentary (*sur tous produits agricoles non alimentaires*). These petitions were referred

to the permanent committee on industry, commerce, and agriculture. On the 22d of February, 1895, without expressing an opinion on the merits of the petitions, that committee reported back recommending that the Government present the bill without delay, and that, during its discussion, the petitions be "placed on the bureau of the chamber." In accordance with that report, on the 8th of this month, the Government presented a bill to Parliament for its consideration. This bill, however, was not made public until to-day.

I send you herewith attached a copy of this bill, from which it will be seen that it is proposed to impose, *inter alia*, a tax of 1.50 francs (29 cents) per 100 kilograms (220.46 pounds) on flour imported from any foreign country. I regret that, in consequence of the length of the bill, I am not able, in view of the delay it would require, to accompany this document with a translation.*

It is too early to form or express any opinion as to whether this bill will become a law.

CHANGES IN THE SWEDISH TARIFF.

I inclose herewith a short report on the latest changes in the Swedish tariff. By this, it can be seen that the duty on breadstuffs now is higher than after the changes in 1888, as reported from this consulate February 14, 1888.†

The Diet, now in session, has, by common vote of the two chambers, raised the duty on bread, breadstuffs, malt, cement, copper wire, electric cables, and electric incandescent lamps to the following rates:

Articles.	Rate.	
	Kronor.	
Bread, ordinary.....per kilogram*	0.06¼	$0.02
Rye, wheat, barley, indian corn, pease, and beans.....per 100 kilograms†	3.70	.99
Flour and groats, all kinds.....do	6.50	1.74
Malt and crushed malt.....do	5.00	1.34
Grain, other kinds.....do	3.70	.99
Cement (gross weight).....do	.60	.16
Copper wire and electric cables:		
Wire made of copper or its alloys, such as brass, bronze, german silver, etc., silver or gold plated.....per kilogram	2.50	.67
Twisted to ropes or cables without insulation.....do	.15	.04
Overspun with silk or other textile material.....do	1.00	.27
Covered exclusively with rubber; also, electric cables so insulated	Free.	.....
Wire covered with lead or armed with iron; also, in combination with other materials, and electric cables covered with lead or armed with iron	Free.	.....
Wire by any other means insulated; also, other kinds of electric cables	(‡)	.....
Electric incandescent lamps.....per kilogram	1.50	.40

*1 kilogram=2.2046 pounds. †100 kilograms=220.46 pounds. ‡10 per cent ad valorem.

A rebate of customs duty at the rate of 1.6 cents per kilogram (2.2046 pounds) has been granted to exporters of bread. In spite of considerable agitation by protectionists, the duty on pork, paper, and leather as yet remains unchanged.

OTTO H. BOYESEN,

GOTHENBERG, *March 26, 1895.* *Consul.*

*The bill has been filed in the Department. Owing to its great length and the fact that, as yet, it is a tentative measure, it is deemed unnecessary to print a translation.

†See CONSULAR REPORTS No. 92 (April, 1888), p. 13.

AGRICULTURE IN SCOTLAND.

The unprecedented length and severity of the frost have made a disastrous change in the position of farmers, both on arable and on hill land, in Scotland. In the latter class of farmers, the past two seasons have been years of gradually improving prosperity, during which the heavy losses of years preceding were being forgotten and repaired. Once again, the gradually accumulating capital has been expended in feeding the hill flocks, while the stock itself has depreciated in value to an extent that will swallow up the whole income for the coming season, or even more.

The frost has not altogether relaxed its grasp on all parts of the country, nor has agriculture fallen back to its normal condition. The higher hills are still white with snow, and, so long as its slow melting continues, so long will the atmosphere remain moist and cold, wide ranges of mountain pasture will remain inaccessible to sheep, destructive floods will be liable to oecur, and the spring growth of all crops kept in check.

In one respect, however, the weather has been most unexpectedly favorable. The thaw has been gradual and mild. Had it come suddenly, with heavy rain, it is difficult to estimate the damage that would have been done. The snow had accumulated in massive drifts; it had piled up around houses and in the shelter of hedges. Its sudden melting could not fail to have been accompanied by heavy damage to roads, buildings, and fences. Happily, such dangers have been averted, the roads are comparatively uninjured, and labor is free to be turned to more urgent matters.

As yet, spring tillage, notwithstanding the progress of the thaw, is still next to impossible, and, so far, scarcely any progress has been made. The thaw has only affected the hard upper crust of the soil. Along the coast, and on naturally free, dry, gravelly, or sandy lands, plowing was resumed a week or more ago. But in inland districts, and on the stiffer class of soils, it is only within a very few days that plows have been seen in the furrows. Now that they have begun, progress will be rapid. The land has been made friable by the frost, which will render cultivation light and easy; the long days, and the absence of all agricultural demand for a day of eight hours, will aid in pushing on with rapidity the preparations for the spring crops. It is fortunate, also, that at Christmas time, before the severe frost set in, labor in other directions was in an unusually advanced condition. During the frost, farmyard manure has been carted out, corn has been thrashed and sold, artificial manures have been brought to the farm, and miscellaneous work has been put in a forward state. This will prevent the loss of valuable time when the period of sowing shall have come.

Damage to root crops.—The heaviest losses caused by the frost on arable lands have been on the root crops. These were none too good last year, and the losses are, therefore, the more severely felt. The turnip crop, where

early lifted, was much under the average, and, though it made up to an average tonnage per acre where it was left to occupy the fields until the late autumn, this gain has now been wholly lost in the case of crops not raised at Christmas, which, standing exposed in the fields during the winter, will almost all now rot as quickly as they thaw. Even roots that were raised are by no means secure. The intense cold was unexpected, and lightly covered pits gave inadequate protection.

Scarcity of roots in spring invariably operates injuriously on the general stock markets, causing a rush of stock to be sold, with a consequent glut and fall of prices. And when there is such a surprising reduction of the food supplies as has occurred this year, large numbers of cattle are certain to be thrown on the spring markets in low condition, where, of course, they realize low prices and bring down the values of all stock of secondary quality and even affect the very best. Cattle feeding is not yielding even fair profits, and, indeed, is carried on at a distinct loss.

Feeding cattle.—The last month has been a most difficult time for the proper feeding of cattle and sheep. Farm hands had little else to do except to provide the daily rations for the animals that, in these days, are relied upon to pay most of the rent. Owing to turnips being, at best, a deficient crop, farmers had, fortunately, made arrangements for a much larger use of artificial feeding stuffs than usual. Besides cake and grain, steamed food, mixtures of treacle and chaff or cut straw, draff, burnt ale, various kinds of meals, and many other things have been pressed into service where never countenanced before. This is now the tendency of the times.

There can be no question that very many observing stock raisers have been lessening the growth of turnips and looking for other foods—not to supersede the use of turnips, but to provide an element of food supplementary to them and useful as a substitute in case of failure or limitation of the turnip crop. This winter's severity has taught a good many lessons which may induce some radical changes.

Sheep feeding.—Sheep, fed on turnips on the fields, have felt the severity of the winter very much. Like cattle, they have been largely dependent on artificial stuffs and on hay. Stored turnips were available for them in some places, but, during the intense frost, they were hard and uneatable, and only consumed by the pressure of hunger. It is very wonderful, however, how the sheep stand the cold, with little or no shelter, and thrive on the scantiest fare when fairly clean and palatable and when they have dry footing and dry beds. Sheep on the hills have had great difficulty in being provided for, and shepherds have led active and anxious lives ever since the year set in.

Cattle markets.—Cattle markets have improved somewhat, but the best beef brings not more than 60s. ($14.60) per cwt. That is the lowest price at which beef can be raised with satisfaction. Below that means loss, even with the utmost skill and economy. It is said that the farmer never gets so far above it now as to be certain of a profit. Sheep have been of late more

profitable to the stock raiser than anything else. Mutton at 9d. (18 cents) per pound is a very cheery price to him, other things being equal.

Potatoes.—Potatoes were a very poor crop last year, and, in some important regions, a complete failure. They command now 90s. ($21.90) per ton, and are comparatively scarce.

Hay.—The crop of hay last year was phenomenally large, and, notwithstanding the demand upon it to supply other forms of food, it is neither scarce nor dear. Much of the excessive supply of it that filled the country, however, has disappeared, and, before midsummer, there will, not unlikely, be a brisk demand and better prices. Straw is plentiful and lessens the use of hay, besides affecting its value.

Wheat.—No injury worth mention has been sustained, to all appearance, by the autumn-sown wheat, either in Great Britain or on the Continent, but it is doubtful if the grain sown in spring will reach an average. Work on the Continent, usually in advance of Great Britain, lags behind. Snow still lingers in Tuscany and Lombardy, and still lies thick on the great Hungarian plain.

JAMES D. REID,
Commercial Agent.

DUNFERMLINE, *March 15, 1895.*

JAMAICA—INDUSTRIAL CONDITION AND TARIFF.

I inclose herewith a copy of the message of the governor of this island to the legislative council, now in session, in which, among other things, he says:

The withdrawal of the Government of the United States from the reciprocal arrangements with this colony, entered into in 1891, and the reimposition of the duty on sugar, leaves us free to restore to our tariff some of the sources of revenue abandoned under that arrangement.

I also inclose the customs tariff laws amendment, introduced by the colonial secretary into the legislative council yesterday. The proposed measure increases (in some instances appreciably) the duties upon many articles that are imported almost exclusively from the United States.

Q. O. ECKFORD,
Consul.

KINGSTON, *March 13, 1895.*

EXTRACTS FROM THE GOVERNOR'S MESSAGE.

Since my return from England I have made careful inquiries into the state of the island; and I am glad to be in a position to assure you that, on the whole, the colony is in a prosperous condition and business is sound and flourishing. There has been a slight decrease in the quantities exported of cocoa, fruit, ginger, and hides, and a considerable shrinkage in the export of dyewoods and pimento, but there has been a large increase in the quantities of coffee, cocoanuts, rum, and sugar. With the exception of a few items, the imports have increased very considerably, and the expansion in the building trade shown by the large increase in the import of lumber and shingles affords a satisfactory evidence of freedom from financial pres-

sure. A further proof of the sound condition of business is found in the bankruptcies returns, which show that in the nine months ending on the 31st of December there were four bankruptcies in the supreme court, with liabilities amounting to £4,054, against ten bankruptcies, with liabilities amounting to £27,334, in the same period of last year.

The post-office returns show a rapid expansion in every branch of its business, so that the loss of revenue caused by the reduction of 50 per cent in the cost of postage of home and foreign letters in 1893 has already been recovered.

The health of the island is excellent, and the appreciation of the suitability of Jamaica as a health resort is steadily developing in England and the United States.

The extension of the Jamaica Railway to Montego Bay has been completed, and is in operation. The line opens up a fine country, a portion of which has hitherto remained undeveloped, and the cheap and ready communication between Kingston and the north and west of the island must be of great value to the community. Six miles of the extension to Annotto Bay and Port Antonio have also been completed, and the work is progressing rapidly.

The main roads of the island have been maintained in good order, and improvements are in constant progress by deviations made to reduce gradients. Since 1889 the main roads have increased from 752 to 1,868 miles, and further new roads are now being constructed in the parishes of St. Thomas, Trelawny, Manchester, and Clarendon. In addition to these roads, a bill will be laid before you to authorize a loan for the purpose of constructing driving roads that will open up the Port Royal Hills and Blue Mountains, and the fertile but undeveloped country between Bath and Port Antonio by the Cuna Cuna Pass, thus extending to those populous districts benefits similar to those conferred by the railway in other parts of the island.

During the year, twenty-five bridges have been built, which complete fifty of the ninety-one bridges authorized by law 29 of 1892, and fourteen are in the course of construction. Within two years I expect that every river of any importance in the island will have been bridged.

With this rapid extension of means of communication and the evidence of a general tendency to progression, coupled with a sound financial position, it is to be expected that the credit of the colony should stand high, and at this moment the 4 per cent inscribed stock of Jamaica is quoted at a higher rate in the London market than similar stock in any colony of the Empire, save those of Ceylon and Mauritius.

But while, in the main, the island has been prospering, it has not been without its anxieties during the past year. The price of sugar has reached its lowest point on record, and the European market has been glutted by cheap rum from Australia, giving rise to great apprehension among owners of estates producing rum of an ordinary quality. The latest quotations show a tendency to improvement in the sugar market, which I hope will continue.

Following the sharp drought of last summer, a serious disease appeared among the cattle, which has caused considerable loss in certain districts. The report of a commission, appointed to inquire into the nature and causes of the disease, will be laid before you, but as the disease is still active, and seems to have baffled the efforts of our local veterinary surgeons, I have sent a copy of the report and the proceedings to the governor-general of Canada with a request that the facts elicited may be submitted to a leading expert in cattle diseases, and a report obtained from him with his diagnosis of the disease or diseases described, and recommendation for their treatment. I have ventured to take this course in anticipation of your action upon the report, so that no time may be lost in dealing with a matter of so much importance to the cattle breeders of the island.

The select committee appointed during the last session to inquire into the agricultural position of the island has continued its labors during the recess. I have no doubt that the report to be presented will materially assist this council in the consideration of questions affecting this most important subject.

I have received from Florida several applications for information as to the prospects of orange growing from persons whose groves have been ruined by the late severe frost, and who realize the precarious nature of the fruit industry in that State on account of the periodical

cold waves from which it has suffered. I have directed that the fullest information shall be prepared for transmission to the inquirers. From the excellence of the Jamaica orange, grown, as it is, without cultivation or care, it is evident that with a soil and climate especially suited to the growth of the citron tribe, this island could, with systematic cultivation, produce enormous crops of oranges, lemons, grape fruit, and shaddock equal in quality to that of any fruit in the American or European market. I shall welcome the introduction of a regular cultivation that ought to be as valuable and as stable as the cultivation of sugar or bananas.

* * * * * * *

The financial year 1894–95 began with a surplus of £59,830, and the revenue in the current year is estimated to yield £625,363, making a total of £685,193.

The expenditure to March 31st, as far as can be judged at present, will amount to £632,570, thus leaving a surplus at that date of £52,623. The estimated revenue for the year 1895–96 is £631,475, which, added to the surplus, makes £684,098. The estimated expenditure is £645,790, leaving a small balance of £38,308 to meet any unforeseen disturbance of these estimates that may arise.

The balance is not sufficient and the expenditure can only be reduced to the amount of the estimated revenue by abandoning much needed public works. The withdrawal of the Government of the United States from the reciprocal arrangement with this colony entered into in 1891 and the reimposition of the duty on sugar leaves us free to restore to our tariff some of the sources of revenue abandoned under that arrangement. A bill will be submitted to you dealing with the subject.

PROPOSED TARIFF BILL.

The customs tariff laws amendment law, 1895, repeals a part of the schedule of law 11 of 1867 (the articles affected being dealt with otherwise), the whole of law 26 of 1890, the whole of law 1 of 1892, and the whole of law 13 of 1894. It enacts the collection of duties as detailed in Schedule I. Those articles in Schedule II are to be admitted free. The law of 1892, says the Kingston Gleaner, "was that passed under pressure from the United States Government owing to the McKinley tariff. On comparing the new schedule with the one in that law, we find the following differences: We give the new figures, as they are not all the same as fixed originally in law 11 of 1867. Bacon and ham are increased from 1d. to 2d.; beef, from 11s. 3d. to 15s. per barrel of 200 pounds; bread or biscuit, from 3s. to 4s. per 100 pounds; butter, from 1d. to 2d. per pound, but butterine and other substitutes remain at 1d.; tallow candles, admitted free under the 1872 law, are now rated 0½d. per pound. The following other increases have taken place: Cheese, from 1d. to 2d. per pound; corn, from 3d. to 4d. per bushel; lard, from 0¾d. per 2 pounds to 0½d. per 1 pound; oats, from 3d. to 4d. per bushel; oil (now of any description, including petroleum), from 0¾d. to 9d. per gallon; wheat, from 6d. to 9d. per bushel; wood, pitch-pine lumber, from 9s. to 12s. per 1,000 feet. A 10s. duty on sugar will now be levied. Meal remains at 1s. 6d. per barrel. The law of last year raising the duty on spirits, tobacco, etc., is embodied in this bill, the rates in the schedule remaining the same. By the repeal of the law of 1892, the other articles mentioned in the free list there and not dealt with in the present bill fall back to their former place. Thus, printing ink is still free, whereas printing paper is not included, and, therefore, goes back to the old duty of 12½ per cent."

Schedule I.

		s.	d.
Ale, beer, and porter	per gallon	0	9
Animals (asses, neat cattle, horses, mares and geldings, and mules)		10	0
Bacon and ham	per pound	0	2
Beef:			
Dry salted or cured	do	0	2
Wet salted or cured	per barrel of 200 pounds	15	0

		s.	d.
Bread or biscuit	per 100 pounds...	4	0
Butter	per pound...	0	2
Butterine, oleomargarine, or other substitutes for butter	do.....	0	1
Candles (tallow)	do.....	0	0½
Cement	per barrel...	0	9
Cheese	per pound...	0	2
Corn (indian) or maize	per bushel...	0	4
Lard	per pound...	0	0½
Meal (not wheat)	per barrel of 196 pounds...	1	6
Oats	per bushel...	0	4
Oil of any sort or description, including petroleum	per gallon...	0	9
Pork (wet salted or cured)	per barrel of 200 pounds...	15	0
Spirits:			
Brandy	per gallon...	12	6
Gin	do.....	12	6
Rum (the produce of and imported from British possessions)	do.....	12	6
Whisky	do.....	12	6
Spirit of wine, alcohol and all other spirits, cordials, or spirituous compounds, except methylated spirits	per gallon...	12	6
Spirits, methylated	12½ per cent ad valorem.		
Sugar	per 100 pounds...	10	0
Tobacco:			
Manufactured, including cavendish	per pound...	1	6
Unmanufactured	do.....	0	9
Tongues, dried	do.....	0	2
Wheat	per bushel...	0	9
Wine in bulk and in bottle	per gallon...	3	6
(And an additional duty of 1s. 6d. per gallon on all wines of value of 12s. and upward per gallon.)			
Wood:			
For every 1,000 feet of pitch-pine lumber, in the rough, by superficial measurement of one inch thick		12	0
For every 1,000 feet of white-pine lumber, or other lumber, in the rough, by superficial measurement of one inch thick		9	0
(For every 1,000 feet as aforesaid of pitch-pine, white-pine, or other lumber, dressed, tongued, or grooved, an additional duty of 3s.)			

Schedule II (*articles on free list*).

Animals not otherwise enumerated.

Apparatus and appliances used for generating, storing, or conducting electricity.

Bags and sacks made entirely of flax, hemp, or jute.

Belting for machinery, of leather, canvas, or india rubber.

Boats and lighters.

Books, printed, bound, or unbound; copy books, pamphlets, newspapers, and printed matter in all languages when complete in itself.

Bottles of glass and stone (empty), being such as are ordinarily used for bottling ale, spirits, wines, aërated waters, pickles, and preserves.

Bridges of iron or wood or partly of wood and partly of iron.

Cotton waste.

Gas fixtures, including pipes and stoves and all apparatus for generating, measuring, or storing gas.

Locomotives, railway rolling stock, rails, railway ties, and all materials and appliances for railways and tramways.

Machinery, viz: Sewing machines and all parts and accessories thereof; steam and power engines and machines and machinery, whether stationary or portable, worked by power or by hand, for agriculture, irrigation, mining, the arts and industries of all kinds, and all necessary parts and appliances for the erection or repair thereof, or for the communication of motive power thereto; steam boilers and steam pipes; telegraph wire, telegraphic, telephonic, and electrical apparatus and appliances of all kinds for communication or illumination; and machinery of all descriptions for facilitating and improving the products of industry, and for lessening or superseding labor in connection with agricultural, manufacturing, or commercial undertakings.

Materials and trucks for wire-rope tramways.

Metals, viz: Brass and copper in bars, ingots, pigs, plates, and sheets; iron and steel in pigs, sheets, slabs, plates, bars, and rods; lead in bars, pigs, and sheets; muntz metal in sheets; solder in bars; tin in bars, blocks, and pigs; zinc in blocks, ingots, or pigs.

Pipes and guttering for conveying fluids.

Printing ink of all colors.

Shooks, box shooks for making boxes for exporting oranges, tomatoes, and such other fruits or vegetables as may be determined by the governor in privy council.

Slates (school) and slate pencils.

Type for printing purposes.

Trees, plants, vines, and seeds, and grain of all kinds for propagation or cultivation.

Water pipes of all classes, materials, and dimensions, and water meters.

Wire iron for fences, wire fencing, with the standards, hooks, staples, nails, and the like appliances for fastening the same; also, iron hurdles, iron fencing, and iron gates.

DEFEAT OF THE MEASURE.

Supplementary of my report of the 13th instant, I have the honor to inform you that the customs tariff laws amendment, introduced by the colonial secretary into the legislative council of Jamaica (a copy of which I forwarded you), has been defeated by the elected members, and it is improbable that a like measure will be brought before the council during the present session. The proposed tariff bill increased the duties upon those articles imported almost exclusively from the United Stafes.

Q. O. ECKFORD,

KINGSTON, *March 21, 1895.* *Consul.*

RAILROAD DEVELOPMENT IN VENEZUELA.

The Ceiba Railway, beginning at the port of La Ceiba, on the east coast of Lake Maracaibo, extends to the village of Sabana de Mendoza, which lies at the foot of the first range of hills, which, increasing gradually in height, finally form the Cordillera of western Venezuela, a spur of the great Andes range. This road was, from the first, eminently successful, its profits averaging from 18 to 25 per cent upon the capital invested.

As this line extends only to the foot of the mountains, a distance of about 30 miles from its starting point, the coffee and other products of the

interior were brought to Sabana de Mendoza on mules and donkeys, and the merchandise destined for Valera, Trujillo, and other important points was also dispatched from the terminus of the road in the same manner. The success which attended the Ceiba Railway led its promoters to believe that an extension of the line to the very center of the coffee region of that part of the district would also give good results. A company was therefore formed and a prospectus issued, the promoter of the enterprise—Mr. Benito Roncajolo—being the same who, in the face of many difficulties and apparently insuperable obstacles, completed and placed on a solid basis the line from La Ceiba.

The new company, called the Trujillo Railroad Company, was at first a separate organization from the Ceiba Line, although the same shareholders figured in both and the interests of the two roads were identical, but it was, in the beginning, considered best to retain the autonomy of each.

The obstacles to be overcome in the construction of the proposed extension were vastly greater than those encountered in the building of the original road. From La Ceiba to the terminus at Sabana de Mendoza, the country is a level plain and no tunneling or rock work of any description was necessary. No large bridges had to be built, as no streams of importance traversed the line. There was, however, constant risk of inundation in the rainy season, and a portion of the road passed through a low swamp where every foot of foundation was artificial. These obstacles were, however, of a trifling character compared with those to be encountered in the proposed extension.

Immediately upon leaving Sabana de Mendoza, heavy grades began to carry the line up to the first plateau, and from there on the work was no easy matter. Deep cuts through solid rock, long and high bridges over deep chasms, and miles of trestle work through gorges and ravines, all combined to make the new enterprise infinitely more difficult of execution than was the original road from La Ceiba.

After the surveys were completed and the work of construction begun, the magnitude of the work caused many misgivings among the shareholders of the new company, but Mr. Benito Roncajolo, ably seconded by his sons and a few faithful supporters who appreciated the great importance of the line, persevered, in spite of all obstacles, and succeeded in making fair progress until the commencement of the late revolution, which paralyzed temporarily industries of every description. Even during the civil war, however, work never entirely ceased, and at the restoration of peace, the efforts of the promoters were redoubled, until now, there seems to be no obstacle to the speedy completion of the enterprise.

I will describe briefly the line of country which will be opened up by this work, the importance of which will then be readily understood. Leaving Sabana de Mendoza, the road runs to the eastward for a distance of 30 kilometers (18.64 miles) to a point called El Iobal. There it bifurcates—one branch to extend to the city of Valera, distant about 24 kilometers (14.91

miles) from El Iobal, and the other to the town of Pampanito, 22 kilometers (13.67 miles) from the point of bifurcation. Valera is the metropolis and business center of that entire section, although it is not the political capital, and the products of a vast territory pass through the city on their way to the lake coast for shipment to Maracaibo. In the same manner, all merchandise and foreign imports entered here and destined for that section of the interior are sent to Valera as the final distributing point.

The branch line to Pampanito will serve that part of the district lying beyond the influence of Valera, so that, with the completion of these enterprises, all parts of a very large section of productive territory, where both agriculture and commerce are being rapidly developed, will be within easy reach of steam transport to the coast. It is to be noted that these lines, as well as the Ceiba road, are constructed exclusively with native capital and with no aid or guaranty whatever from the Government. The Ceiba Line is capitalized at 2,000,000 bolivars ($386,000), and the Trujillo Railroad Company at 8,000,000 bolivars ($1,534,000), but it is proposed to unite the two companies and form a single organization. This project is looked upon with favor by the great majority of stockholders, and will, no doubt, be carried into execution.

Before the close of the present year, the Valera branch will be completed and in regular operation, and within a few months afterwards the branch line to Pampanito will, no doubt, be finished and in working order. No attempt, for the present, will be made to carry the main line further into the interior than Valera, and it is not, indeed, necessary; but in later years, when the population shall have increased, and commerce and agriculture in proportion, the company will, no doubt, extend its field of operations.

It is a pleasant duty to call attention to enterprises which, like this, are of solid worth and of vast benefit to the people and country at large, and I beg to refer especially in this connection to the Messrs. Roncajolo, to whose never-failing courage and energy this district is indebted for a work of great public utility, which, not many years ago, was looked upon as impracticable and visionary.

I shall, in a subsequent dispatch, have the honor to report concerning the Tachira Railway, now being constructed under the superintendence of these same gentlemen, which is even of greater importance than the lines above described.

E. H. PLUMACHER,

MARACAIBO, *March 12, 1895.* *Consul.*

LINE FROM ENCONTRADOS TO LA FRIA.

On the 12th ultimo I reported upon the extension of the Ceiba Railway, which will so greatly increase the facilities of transport to and from that part of the interior, and I now describe another line, which will probably be of greater commercial importance than any other railroad in Venezuela.

As I have mentioned at various times in former reports, there is no direct communication between the coffee region of the extreme west of this country and Maracaibo. Nearly all that tract of the highlands between the city of Merida and the Colombian frontier produces coffee of an excellent quality, and the commerce of that district is thriving and progressive, large amounts of foreign merchandise being constantly entered at Maracaibo for transport to the interior. The topographical conditions of the country are such, however, that until now the products of that great section, which form a large proportion of the exports from Venezuela, could only arrive at Maracaibo for shipment abroad by a most roundabout and costly route, and *vice versa*, the imports from foreign countries were subjected to the same inconveniences before they could arrive at their final destination.

For example, a bag of coffee, starting from the city of San Cristobal, one of the most important centers, goes across the frontier into Colombia and arrives at the city of Cucuta. There it is unloaded and stored until it is convenient to send it by rail to Puerto Villimizar, at the head of navigation on the River Zulia. Here, it is shipped on board a very light-draft stern-wheel steamer, or in a "bongo" (species of large lighter propelled by poles), and is carried to Encontrados, a port on the River Catatumbo. There, it is unloaded and stored in one of the large warehouses to await opportunity for transport to Maracaibo in one of the large lake steamers.

It is not necessary to point out the drawbacks and inconveniences of this clumsy system, which, besides being expensive, is also risky. The cost of transport on one bag of coffee from its starting point to Maracaibo runs from $4 to $5 in our money, while from here to New York the maximum freight is 40 cents. In view of these facts, it is not surprising that, for years, the question of direct communication has been agitated, and concessions have been granted and contracts made from time to time, none of which, until now, have resulted in anything practical.

The inconvenience of existing methods has been especially emphasized during this year's revolution in Colombia, communication with Cucuta and the upper River Zulia having entirely ceased. Thousands of bags of Venezuelan coffee have, for many weeks, been awaiting transport to Maracaibo, but the state of war across the frontier has prevented their passage into Colombia, and the railroad from Cucuta to the river port has, moreover, been destroyed. In the same manner, the custom-house storerooms here are filled to overflowing with foreign merchandise for the interior, not only of Venezuela, but also of eastern Colombia, and the losses of all concerned, on account of the complete paralysis of this trade, will amount, ultimately, to very large sums.

There is now, however, a well-founded hope of a speedy remedy for these ills. Upon the lapsing of a former concession for the construction of a direct railway, wholly on Venezuelan territory, to tap the great coffee-producing region of the western Cordillera, the Messrs. Roncajolo, of this city, who built and carried to a successful conclusion the Ceiba road and

its extensions, contracted with the Government for the construction of a line which is now being pushed as rapidly as possible.

Starting from Encontrados, on the right bank of the Catatumbo, accessible to the largest craft navigating Lake Maracaibo, the line follows the general course of that river and its tributary, the Zulia, to a point styled La Fria, 100 kilometers (62.14 miles) from its starting point. An extension of 40 kilometers (24.85 miles) further to the south would bring the road to the city of San Cristobal, in the very heart of the great agricultural section, and now a commercial center of constantly increasing importance, and this extension will, no doubt, be built; but for the present the terminus of the line may be considered to be at La Fria. Of these 100 kilometers (62.14 miles), 50 kilometers (31.7 miles) are completed, and trains are running. Within three or four months, the line will reach a point as near San Cristobal as is Cucuta, where coffee from the former city and district can arrive by means of animal transport.

The completion of the line to this point is anxiously awaited, as then there will be no longer any necessity for crossing the frontier into Colombia and expenses will be vastly reduced. This applies equally to merchandise from Maracaibo to the interior, and the completion of a few more kilometers of the road will cause an immediate revolution in the transport system between the Cordillera and this port.

Trains should be running through to La Fria before the close of this year, and although there may be some delay in continuing the line to San Cristobal, an immediate effort will doubtless be made to push it through as far as Colon, a point nearly midway between La Fria and San Cristobal. The reason of this is that, should the road reach Colon, the merchants and importers of the city of Cucuta and the surrounding country, which takes in a large section of Colombia, would find it more convenient to send their products across country and utilize this railway for transport to Maracaibo than to adhere to the present system of shipping by rail from Cucuta for transfer to the small river craft.

This would cause a complete reversal of the present conditions. Instead of the Venezuelans being obliged to cross the frontier and utilize Colombian methods of transport, and then reenter their own country, the Colombians would be obliged to adopt a similar course with regard to Venezuela, but with the advantage of a considerable reduction in expense and greater security, the only transfer of products or merchandise from or to the interior being at Encontrados where the arrangements are most excellent and satisfactory.

The profits of this line, when completed and in regular operation, must necessarily be great, and it is to be noticed that it is being constructed exclusively with native capital and has neither received nor will receive any aid or guaranty whatever from the Government. Shares have been taken, not only in Maracaibo, San Cristobal, and other large cities, but also in many little villages and country neighborhoods. It is emphatically a popular project, and, for that reason, the shares have a value of only $100 each.

As I have already explained, the completion of the road to Colon only will change entirely transport conditions and not only relieve the Venezuelans of the Cordillera from their dependence upon Colombia, but will also attract exclusively Colombian trade; but even should the line reach San Cristobal, it is proposed to extend it ultimately much further. The idea of the contractors, which is no doubt realizable, is not only to reach the summit of the Cordillera, but to descend the southern slope to the River Uribante, which flows into the Orinoco. Should this be accomplished, the result would be direct communication between Maracaibo and Ciudad Bolivar, and it is estimated that the journey could be made in seven or eight days.

An inland route by steam from the Gulf of Maracaibo to the delta of the Orinoco, passing in its entire extent through Venezuela, is indeed an important project, and the benefit therefrom to both local and national interests must be very great. Vast tracts of land, rich in mineral wealth and unsurpassed for purposes of agriculture, are now lying idle and unimproved along the line of the projected highway, and the establishment of rapid and regular communication with this virgin territory must bring about its speedy utilization and development.

E. H. PLUMACHER,
Consul.

MARACAIBO, *April 3, 1895.*

CONTRACTS FOR TWO NEW LINES.

I inclose copies and translations of two important railway contracts, the first for a line from this city to Perijá, and the second for a road from a point on the east coast of the lake opposite Maracaibo to the city of Carora, with ultimate extension to Barquisimeto, the most important interior city of Venezuela. The Perijá road will communicate with and open up an extensive region of remarkable fertility and rich in mineral products, and the Carora Line will give Maracaibo easy communication with the rest of the Republic, from which topographical conditions have kept it, until now, in a state of practical isolation.

The city of Barquisimeto has already a railroad to the coast, its terminus being at Tucacas, west of Puerto Cabello, and upon the completion of the line from Lake Maracaibo, the conditions of traffic will be changed greatly for the better.

Scarcely any enterprises could be projected of more benefit to Maracaibo and the State of Zulia than these two railways.

E. H. PLUMACHER,
Consul.

MARACAIBO, *April 4, 1895.*

SYNOPSIS OF PERIJÁ RAILWAY CONTRACT.

The Minister of Public Works of Venezuela has entered into a contract with Dr. Manuel Cadenas Delgado, representing Messrs. Andres Roncajolo, José Maria Avila Sánchez, Christian Witzke, Alfredo Vargas, Carlos Garcia, Pedro Paris, and Francisco Urdaneta Fandeo, who have formed a syndicate in the city of Maracaibo with the object of constructing a railway to Perijá. The syndicate binds itself to organize a joint-stock company with domicile in Maracaibo, entitled the Perijá Railway Company, to construct, within two years, counting from the date of the approval by Congress of this contract, a railway, which, commencing at the port of Barranquita, on Lake Maracaibo, shall terminate at a convenient point of the savanna of San Ignacio.

The line shall be single track, with distance between rails of 1.07 meters (42.13 inches), and with a minimum radius of curves of 75 meters (246½ feet), and shall be constructed according to accepted rules and of good material.

At the station of San Ignacio, the line may bifurcate, one branch toward the north, passing by the village of Rosario, and the other toward the south, to Machiques. The company will survey these two branches during the two years employed in the construction of the line from Barranquita to San Ignacio, and it is bound to commence work on one of these branches within one year from the opening of the line to San Ignacio.

The company will establish a line of steamers between Barranquita and Maracaibo.

The Government of the Republic concedes to the Perijá Railway Company the property right, irrevocable and perpetual, in the railway built according to this contract, and it binds itself not to grant a similar concession in the localities mentioned to any companies or individuals during the term of ninety years, during which period the company will have the privilege of operating the Perijá Railway. This privilege may be prolonged by the Government upon petition of the parties interested upon conditions of mutual convenience.

The company may place at the service of the public the different sections of the line as they may be completed, charging a tariff proportionate to the distance traversed.

The company may cut in the public forests, subject to no indemnification, the wood necessary for the work.

The machinery and material necessary for the construction of the road, and the tools, instruments, etc., for that purpose, shall be exempt from all national imposts.

The company shall have no right to any subsidy or guaranty of interest upon the capital invested, and, as its sole contribution to the national treasury, will pay 5 per cent of the net profit of the operation of the line according to the decree of November 30, 1892, regulating the method of railway contracts in Venezuela. The said contribution of 5 per cent will be paid at the time of the division of dividends among the stockholders of the company.

The Government of the Republic concedes to the Perijá Railway Company, subject to no indemnification, the property right in such public land as may be necessary for the width of the line, its stations, offices, and warehouses. And it also concedes between the port of Barranquita and the station of San Ignacio one kilometer (0.621376 mile) in length on each side of the line by 500 meters (1,640⅓ feet) in depth, alternating with one kilometer on each side, which shall remain public property. Thus, the first kilometer, starting at the margin of the lake, shall remain public land, the second kilometer is ceded to the company, the third remains public, the fourth belongs to the company, and thus successively.

The Government will also cede to the company, without indemnification, areas or zones of 25 square kilometers (1.93 square miles) each of the public lands of the district of Perijá, for the purpose of settling in these zones immigrants who will cultivate and develop them. A petition to this effect will be previously submitted to the Ministry of Fomento, accompanied by a plan of the lands desired; but no new area of 25 square kilometers will be conceded until it is proved that the preceding one granted shall have been distributed among immigrants and its cultivation begun.

The rates of freight and passage shall be determined by arrangement with the National Government, and will be modified whenever so required by the exigencies of traffic.

This contract may be transferred to any other individuals or companies, notice thereof being given to the National Government.

SYNOPSIS OF CARORA RAILWAY CONTRACT.

The Minister of Public Works of Venezuela contracts with Dr. Manuel Cadenas Delgado, representing Messrs. Julio A. Añez, Guillermo E. Leiva, Juedah A. de Lima, Angel M. Araujo, Eduardo von Jess, and Felix Sanchez Marmol, who have formed a syndicate in the city of Maracaibo, with the object of constructing a railway, which, starting from the port of Cabimas, on Lake Maracaibo, or at some other point on said lake, shall terminate at the city of Carora, in the State of Lara. The syndicate binds itself to organize a stock company with domicile at the city of Maracaibo, styled the Carora Railroad Company, for the construction, within the period of five years, counting from the date of the approval of this contract by the National Congress, of a railway, which, starting from the port of Cabimas, or other point on Lake Maracaibo, shall terminate at the city of Carora, in the State of Lara.

The road shall be single track, with a distance between rails of 1.07 meters (42.13 inches), with a minimum radius of curves of 75 meters (246½ feet), and shall be constructed according to approved methods and of good materials.

At the completion of the railway from the lake to Carora, the company shall have the preference to contract under equal conditions for the extension of the line to Barquisimeto, with branches to other cities on the route.

The company will establish a line of steamers between Cabimas (or the lake terminus) and Maracaibo.

The other provisions of the contract are the same as those of the agreement for building the Perijá Railway.

ELECTRIC LIGHTING IN MONTEVIDEO.

The following data, principally furnished by the Compañia Nacional de Luz Electrica, Montevideo, may be of general interest:

Until about 1888, the public lighting of this city was done under contract with the Montevideo Gas Company, an English corporation, which had a monopoly. A company was then formed with home capital to furnish better lighting, either by gas or electric light, and, amidst great difficulties, an electric-light plant was put up and a contract made with the municipality to furnish a part of the most populous section of the city, the so-called *Centro*, with electric lights. About two years later, another plant was put up to supply the remainder of the city.

The municipality imposes a separate tax for public lighting, which brings about $90,000 annually, out of which this service is paid. The following are some details in regard to the system, etc., used by the company:

System.—Alternating, Ganz, Budapest.

Stations.—Central, three alternators, 80 kilo Watts motor, compound, surface condensing, each 300 horsepower; makers, Machine Manufacturing

Company, Brunn, Austria. Thirty-two hundred lamps of 12 candlepower each are in service. Commercial houses are served until midnight.

Arroyo Seco station; system, alternating, Ganz, Budapest; two machines of 600 horsepower each, compound, with alternators of 320 kilo Watts each, coupled direct; five machines of 150 horsepower each, high pressure, alternators, 80 kilo Watts each, direct couplings; surface condensers, Fangye system, Birmingham, 1,200 horsepower; 5,000 lamps in service, of which 3,400 are public lights.

The municipality pays $3.15 (gold) per lamp per month; commercial houses, 36 cents per unit; and private houses, 48 cents per unit. Meters, 10 to 20 ampères, 30 cents per month.

The use of electricity as a motive power has not yet been introduced in this country. Besides Montevideo, there is no other city or town in the Republic of Uruguay, with the exception of San José, with electric lighting.

As will be seen by the above, the lighting is done here by small incandescent lamps. Arc lamps, as a system, are not yet used here.

EDGAR SCHRAMM,
Consul.

MONTEVIDEO, *March 5, 1895.*

RUSSIAN TEA PRODUCTION AND GRAIN EXPORTS.

In the spring of 1895, Colonel Solowzow will gather on his plantation in the Caucasus region the first crop of tea, and expects to reap about 20,000 pounds; this will be the first Russian tea. The whole crop, as well as the crops for the next eight years, has already been contracted for by a merchant of Kharkov. The Russian Government is interesting itself greatly in tea raising. A few days ago it sent out representatives to the East Indies and Ceylon to study tea raising, and to bring experienced men with them to Russia.

The export of cereals during the week ending February 25 last amounted to 3,815,000 poods (68,883⅓ tons), consisting of 1,029,192 bushels of wheat, 516,531 bushels of rye, 504,795 bushels of barley, 308,886 bushels of corn, and 173,789 bushels of oats. From January 1 to February 25 the export of grain amounted to 41,472,000 poods (748,818 tons), while during the same period of last year it amounted to 67,298,000 poods (1,215,133 tons), being a difference of 466,315 tons. The export consisted of the following: Wheat, 10,987,539 bushels; barley, 6,332,389 bushels; oats, 7,538,380 bushels; rye, 2,653,587 bushels; and corn, 2,325,982 bushels.

From January 1 to December 1, 1894, the export of Russian flax to the western European countries amounted to 8 per cent less than for the same period in 1893, and about 17 per cent less than in 1892. The decrease in the export was particularly noted as to France and Belgium, while Germany, Austria-Hungary, and England purchased more than in 1893. The Russian

flax producers expect to gain higher prices on account of the heavy reserve of flax they keep back, which action is already making itself felt. The receipts of flax at Pernow up to December 31 last amounted to only 1,444,480 pounds, against 9,028,000 pounds in 1893 and 5,055,680 pounds in 1892. To Ostrow there was brought, from November 15 to December 15 last, only 361,120 pounds, instead of from 730,000 to 800,000 pounds, which was usually brought there during the same period of previous years. The receipts at Yaroslav were only from one-third to one-fourth of the usual amount. In consequence of the strong competition of the Russian flax, its culture in Silesia has been greatly reduced. Out of the 440,920 pounds used in that province, only 176,368 pounds has been raised there, and the balance is exclusively drawn from Russia.

During the fair for closing grain contracts at Kiev, which was held there a few days ago, the business with the future crop of cereals, such as wheat, flax, and rape seed (especially wheat) was very active. An entirely new system regarding price contracts for the delivery of future crops was adopted there, which is really unique. For example, a farmer sells a large quantity of wheat at 45 copecks per pood,* to be delivered in August. If, at the time of delivery, the price of wheat should be 50 copecks per pood, the buyer takes the profit of 5 copecks; but if the price should be 55 copecks per pood, the next 5 copecks belong to the seller. In case the market price should be over 55 copecks, then such further increase in the price is divided between the buyer and the seller in equal shares.

The Russian Minister of Finance and the Minister of Agriculture are trying to work up a plan by which they can help in raising the prices of Russian grain. The Department of Agriculture only a few days ago sent out circulars to all agricultural officials ordering a general consultation and discussion of the question as to how the price of Russian grain could be advanced.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 21, 1895.*

GOLD, PLATINUM, AND SILVER IN RUSSIA.

The production of gold, platinum, and silver in Russia in 1893 will be seen from the following data: Of gold, there were 2,731¾ poods (49 tons 649 pounds), which was 104 poods more than in 1892. This output was derived from the following mining districts: The Ural district contributed 738½ poods; the Tomsk district, 473 poods; the Irkutsk, 1,393 poods; the mines of the Emperor's cabinet in Nerchinsk district, 120½ poods; the Altais, 12½ poods; and the Grand Duchy of Finland, one-fourth of one pood. In the whole Ural region, in 1893, there were 2,253 gold mines

*1 copeck = about one-third of a cent United States currency; 1 pood = 36.112 pounds.

in private possession, of which only 807 were working. Thirteen mines belonging to the Government were leased to private persons. The laboratories of Ekaterinburg, Tomsk, and Irkutsk, in 1893, received 2,712 poods 22 pounds of *Schlichtgold*, out of which was obtained 2,639 poods 35 pounds of *Ligaturgold* in 5,754 bars, which contained 2,304 poods 7 pounds of chemically pure gold and 221 poods 11 pounds of silver. The St. Petersburg mint received 2,662 poods 33 pounds of *Ligaturgold*, for which the holders obtained 30,625,900 rubles gold ($23,643,194.80).

Formerly, platinum was produced exclusively in the Ural district. In 1893, 311 poods 13 pounds of platinum was obtained in all, which was 32 poods 6 pounds more than in 1892. The price of platinum fluctuated between 7,000 and 8,000 rubles ($2,548 and $2,912) per pood. The platinum is generally purified in foreign factories; therefore Russia exports only raw platinum. Only two factories for the cleaning of platinum exist in the whole of Russia—the Tomtelev factory and the laboratory of Kolbe, both situated at St. Petersburg.

Silver, in Russia, is chiefly produced in the Altai and Nerchinsk districts, which mainly belong to the imperial cabinet. It is also produced in the Caucasus, the Kirghiz steppes, and in the south of Russia. On the average, the mines of the imperial cabinet produce 275 poods yearly. It is hardly to be expected that an increase in the produce of silver in Russia will take place in the near future. The total production of silver in Russia in 1893, not taking Finland into consideration, where only 54¼ poods was obtained, amounted to 729 poods, including the 221 poods derived from the *Schlichtgold*, which was 13 per cent less than in 1892.

In 1893, 94,000 workmen were employed in gold mines, of whom 48,000 were in the Ural Mountains, where the workmen earned from 15 to 30 rubles per month, the women from 10 to 15 rubles, and half-grown children from 10 to 18 rubles. The sanitary condition of the Ural gold mines is, in general, satisfactory; almost all of the larger mines keep physicians. During the year, 64 accidents occurred, of which 18 were fatal; in the Siberian gold mines, 264 accidents occurred, of which 17 were fatal. It is expected that as soon as the Siberian Railway is completed, the gold mines in that region will resume work with full force.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 18, 1895.*

TARIFF AND OTHER TAXES IN MADAGASCAR.

I inclose tables showing the direct taxes imposed upon all parties, even established firms belonging to other ports in Madagascar, in the ports of Diego Saurez, on the east coast, and Nossi Bé, on the west coast of Madagascar. These charges are independent of import and export charges, which are the same as in other Madagascan ports. I also inclose tables giving in-

formation as to duties at Tamatave and in Madagascar generally. The general export duties for Madagascar apply equally to Tamatave, Diego Saurez, and Nossi Bé as to Hova ports on either coast.

By an arrangement made between the commandant of the French blockade squadron and the mercantile houses in Tamatave, these taxes or customs are collectible on all goods intended for the east coast, as far as the general 10 per cent customs duty, and goods to be relieved of the special taxes must be exported within one month from the arrival here. This arrangement was entered into to secure his promise that he would not blockade or bombard any other port than Tamatave. Under this arrangement, Vatomandry, 70 miles south of Tamatave, becomes the great east coast trading point.

EDW. TELFAIR WETTER,
Consul.

TAMATAVE, *January 14, 1895.*

CUSTOMS DUTIES IN MADAGASCAR.

A general duty of 10 per cent is charged on all merchandise imported, being upon the original cost, exclusive of charges. Export duties are as follows:

Articles.	Quantity.	Rate.	
		Madagascar currency.	United States coin.
Bags, empty	Per 100	$0.30	$0.2895
Bones, dry and green	110.32 pounds	.05	.0482½
Cattle, beef (no others allowed)	Per head	3.00	2.895
Coffee	110.32 pounds	1.60	1.544
Ducks (wild)	Per dozen	.60	.579
Geese	do	.60	.579
Ginger	110.32 pounds	.40	.386
Gum copal	do	1.20	1.158
Hides, dry salted	Per 100	5.00	4.825
Hogs, live	Per head	.50	.4825
Kids, live	do	.30	.2895
Mats:			
Fine	Per piece	.20	.193
Ordinary	100 pieces	.30	.2895
Potatoes	110.32 pounds	.05	.0482½
Poultry	Per dozen	.15	.1447½
Rabannas	110.32 pounds	.60	.579
Rice, white	do	.60	.579
Rofia fiber	do	.33	.3184½
Sheep, live	Per head	.30	.2895
Skins:			
Kid		(*)	(*)
Sheep		(*)	(*)
Sugar, raw	110.32 pounds	.10	.0965
Tallow	do	.60	.579
Tobacco	do	.50	.4825
Turkeys	Per dozen	.60	.579
Wax (bees')	110.32 pounds	2.00	1.93
Rubber (caoutchouc)	do	2.40	2.316

*10 per cent ad valorem.

The following are the customs duties at Tamatave, Madagascar:

(1) On rum, a special duty of 27.85 francs ($5.38) per barrel or 40 per cent ad valorem (city tax) and 10 per cent ad valorem (duty).

(2) On spirits, liquors, liqueurs, wines, and beers, a general duty of 10 per cent ad valorem (city tax) and 10 per cent ad valorem (duty).

(3) On all other imports, a general duty of 10 per cent ad valorem (duty).

(4) On all goods under classes 1, 2, and 3, when for use of French land forces, free of all duties.

(5) All articles under class 2 when for pharmaceutical use, free of all duties.

(6) By special ordinance of December 24, 1894, beef animals, poultry, ordinary canned goods, flours, rice, dry and fresh vegetables, fruits, coffee, sugar, table wines, beer, and petroleum oils are free of all duties.

(7) All articles admitted free of duty subsequently exported to any point in Madagascar must pay an export duty of 10 per cent ad valorem.

Licenses charged at Nossi Bé (west coast of Madagascar), including all trades, professions, and business enterprises.

Trade, profession, or business.	License fee.	
	Francs.	
EXCEPTIONAL.		
Factories of all kinds	2,400	$463.20
FIRST CLASS.		
First category.		
Commission and export houses doing a wholesale business and receiving regularly important ladings of merchandise on their own account and risk	1,200	231.60
Second category.		
Commission and export houses doing a wholesale business and receiving accidentally ladings of merchandise of minor importance on their own account and risk	900	173.70
Third category.		
Houses receiving inland merchandise and purchasing their supplies, wares, etc., in the town, and doing a wholesale business, both commission and export	600	115.80
SECOND CLASS.		
Manufacturers and wholesale dealers in rum and receivers of French rum who sell or store same in their warehouses	500	96.50
THIRD CLASS.		
Sellers of drinks; coffeehouse, lodging-house, and restaurant keepers; owners of halls; landlords of hotels; captains and supercargoes of merchant ships, French or foreign (including dhows), for the sale of merchandise, excepting rum, in the territorial waters and in the ports of the colony (per voyage)	300	57.90
FOURTH CLASS.		
Weighers and machinists having workshops	250	48.25
Houses receiving inland merchandise and purchasing their supplies in the town, partly wholesale and retail	240	46.32
FIFTH CLASS.		
Houses receiving inland produce and purchasing all their supplies, etc., in the town, retail only; machinists, smiths, shoemakers, joiners, carpenters, braziers, wheelwrights and cartwrights, tinsmiths having workshops, pharmacists, and peddlers	150	28.95
SIXTH CLASS.		
Bakers and butchers	75	14.48

NOTE.—All licenses are payable in advance for the entire year.

Licenses charged at Diego Saurez, including all trades, professions, and business enterprises.

Trade, profession, or business.	License fee.	
EXCEPTIONAL.		
Large industrial enterprises of all kinds, banks and loan and exchange institutions, and proprietors or lessees of salt pits	*Francs.* 1,800	$347.40
FIRST CLASS.		
General traders, ship agents and brokers, promoters and managers of corporations, and distillers of alcohol	500	96.50
SECOND CLASS.		
Wholesale and retail merchants, innkeepers having a saloon and restaurant in the same establishment, manufacturers of liqueurs manufacturing neither rum nor arrack, insurance companies, captains or supercargoes selling on land or on shipboard a cargo of a value of 20,000 francs and upwards	300	57.90
THIRD CLASS (ORDER OF JUNE 26, 1891).		
Retail merchants; building, joinery, and painting contractors; manufacturers of mineral waters, manufacturers of ice, inn or eating-house keepers not having a saloon, geometric surveyors, physicians and pharmacists, advocates and counselors at law, commercial agents; peddlers, with wagon or tumbril; lighting contractors, captains and supercargoes selling on land or on shipboard cargoes of a value of 10,000 francs and upwards	150	28.95
FOURTH CLASS.		
Contractors for carriage or lighterage, printers, lithographers, managers of plays and public amusements, photographers, hawkers, tailors, carpenters, masons, joiners, cabinetmakers, tinsmiths—in a word, all workmen or tradesmen employing at least one assistant; captains and supercargoes selling on land or on shipboard cargoes of a less value than 10,000 francs	75	14.48
ORDER OF AUGUST 27, 1892.		
First class.		
Coffeehouses provided with billiard tables	350	67.50
Second class.		
Coffeehouses not provided with a billiard table	300	57.90

NOTE.—The licenses for exceptional, first, and second classes are due and payable in advance for the entire year.

HAWAIIAN IMPORTS OF LIQUORS.

I transmit herewith a table showing the imports of spirits, wines, etc., into these islands for the years 1893 and 1894. The table also shows the increase and decrease in the importations of certain items during that time.

My object in procuring these statistics was to determine the truth of the report that the imports of California wines were decreasing in proportion as the imports of "sake"* increased. This, I find, is not borne out by the facts. While the consumption of "sake" has assumed large proportions—there being an increase of 79,291 gallons in 1894 over that consumed in 1893—the entries in the custom-house here show that 21,327 gallons of California wines were imported in excess of the quantity imported in 1893.

*Japanese liquor from rice, other grains, or grapes.

Imports of liquors, wines, etc.

Description.		1893.	1894.	Increase.	Decrease.
Alcohol	gallons	2,382	913	.....	1,469
Brandy	do	4,506	4,256	.....	250
Cordials and bitters	do	340	426	86	.....
Gin	do	17,320	12,247	.....	5,073
Rum	do	242	100	.....	142
Samshoo*	do	7,277	11,760	4,483	.....
Whisky	do	13,946	11,434	.....	2,512
Wines:					
Champagne	dozen quarts	188	247	59	.....
	dozen pints	368	183	.....	158
California	gallons	103,402	124,729	21,327	.....
Foreign (sake)	do	3,804	83,095	79,291	.....
Port	do	3,280	4,045	765	.....
Sherry	do	1,449	1,065	.....	384
Hawaiian	do	.....	142	142	.....
Malt liquors (beer)	dozen quarts	30,383	32,217	1,834	.....
	dozen pints	11,144	10,691	.....	453
	gallons	47,327	57,230	9,903	.....
Sundries	do	8,514	160	.....	8,354

* A spirit distilled by the Chinese from rice or millet.

ELLIS MILLS,
Consul-General.

HONOLULU, *March 16, 1895.*

DIVERSION OF HAWAII'S SUGAR TRADE.

By a new arrangement with its agents—Messrs. William G. Irwin & Co., of this city—the Western Sugar Refining Company is purchasing and shipping large quantities of sugar from Honolulu direct to New York. This new deal, it is estimated, will divert at least 30,000 tons of sugar from the port of San Francisco during the present year. It will, of course, cause considerable loss to the lumber and coal laden vessels which come to this port, and have heretofore generally got a cargo of sugar for San Francisco. Many vessels have left here this year in ballast, and others had to wait a considerable length of time for a load.

Railroads in the United States will also lose considerable in freights, as most of the sugar which is now being carried around Cape Horn was conveyed across the continent of America by rail.

The first vessel leaving here for New York with a cargo consigned to the "order of the Western Sugar Refining Company" was the *Kenilworth*. She cleared on the 5th instant, carrying a cargo of 63,912 bags (3,998 tons) of sugar, invoiced at $200,423.40.

The *Charmer* cleared for the same port on the 25th instant, carrying to the same consignees 47,019 bags (2,918 tons) of sugar invoiced at $149,175.10, and the *T. F. Oakes*, which arrived here in ballast on the 21st instant, is now preparing to receive her cargo.

ELLIS MILLS,
Consul-General.

HONOLULU, *March 26, 1895.*

USES OF MONAZITE IN EUROPE.*

In compliance with Department instructions, inclosing copy of a letter from the editor of the Manufacturers' Record, at Baltimore, asking for information as to the use of monazite in this consular district, I have to report as follows:

Monazite—known in American mineralogy as "Eremit," and variously elsewhere as "Mengit" or "Edwardsit"—is a brown or reddish mineral which was originally found at Miask, in the Ural, but has since been discovered in Norway, Brazil, and, still more recently, in the United States, notably in North Carolina. It is a natural phosphate of the protoxides of cerium and lanthanium, two of the rare primitive metals. Monazite contains about 28 per cent of phosphoric acid, 24 to 27 per cent of the protoxide of cerium, 37 to 40 per cent of the protoxide of lanthanium, and generally, traces of calcia, magnesia, and the oxides of tin. It is infusible before the blowpipe, but is soluble in hydrochloric acid, and upon these two qualities, depends its value for the latest industrial purpose to which it has been applied in Germany—the manufacture of hoods for incandescent gas-burners.

Until quite recently, the principal use of monazite in this country has been as a raw material for the production of cerium, lanthanium, and their various chemical derivatives. These are manufactured in Germany principally by two large and important firms, viz, E. de Haen, at Hanover, and E. Merck, at Darmstadt, near Frankfort.

Cerium, a gray metal of lamellar structure and high specific gravity, costs, in this country, $190 per kilogram (2.2046 pounds), and its principal derivatives are the acetate, carbonate, chloride, nitrate, oxalate, sulphate, and the hydrated and anhydrous oxides of cerium. These products vary in value from $2.70 per ounce for the anhydrous oxide, to the carbonate, nitrate, and pure oxide of cerium at $1.31; the salcylate, at $2.18; and the oxalate, at 41 cents per pound, respectively.

Lanthanium (also called lanthanum) costs, as pure metal, $6.80 for twenty grains; the chloride, $2.70 per ounce; the anhydrous oxide, $3.40; and the sulphate, nitrate, and hydrated oxide of lanthanium, $2.70 per ounce, respectively. These values are here given to show that both metals and most of their compounds are so expensive that their use must be relatively limited. Metallic cerium and lanthanium are employed for incandescent purposes, and their derivatives are mainly of scientific, rather than industrial, interest.

But the most recent and important application of monazite, which has latterly greatly stimulated the demand for it in this country, is its use as an impregnating material for the hood, or mantle, of the incandescent gas-burner invented by Dr. Auer, of Vienna, which is now made and sold in immense numbers by the Deutsche Gas-Glühlicht Gesellschaft, whose office is

*The consuls at Birmingham and Sheffield, England, report that monazite is not used in their districts.

at No. 5 Molkenmarkt, Berlin. The value of monazite for this purpose is due to its high degree of resistance to fire. The distinctive feature of the Auer burner is a hood or net of fine gauze, which surrounds the flame, and by greatly increasing its incandescence, produces a white, intense light without increasing the consumption of gas. This hood is made of cotton thread, loosely woven in the form of a sack or net, closed at one end and open at the other. This is then impregnated with a solution of monazite or the oxides of cerium and lanthanium, prepared by methods the secret of which is not disclosed. The impregnated cotton tissue being now stretched upon a wire frame and ignited, the cotton is burned away, leaving a skeleton of inorganic matter derived from monazite, in which each thread and mesh is perfectly preserved. This frail but highly refractory gauze-like hood is then inclosed in an argand chimney, attached to the burner, and will last for several months.

Thus far, the Berlin company has obtained its supply of monazite from Norway and Brazil, the value of the imported mineral being governed by the percentage of available monazite contained, which varies from 1½ to 6 per cent. If the mineral from the United States is equal or superior to this, there would seem to be a good opportunity for its introduction for this purpose. A sample of the American mineral, with a certified analysis and specifications as to price, quantity offered, conditions of shipment, etc., if sent to Messrs. Edward Zeitz & Co., No. 1 Brandstwiete 20, Hamburg, will receive due attention.

The situation in Germany may therefore be summarized as follows:

Mr. E. de Haen, of Hanover, uses monazite in large quantities as a raw material for the manufacture of cerium and lanthanium and their various compound derivatives. He obtains his supply of the mineral directly from the United States.

Mr. E. Merck, of Darmstadt, also uses monazite for similar purposes. The origin of his present supply can not be ascertained, but he would be glad to receive samples of the American monazite, with specifications as to its price and conditions of shipment. These may be sent to Mr. Merck direct, or to this consulate for delivery and further report.

The Incandescent Gas-Light Company, No. 5 Molkenmarkt, Berlin, uses monazite in considerable quantity, but has thus far obtained its supply from Norway and Brazil. As an agent or intermediary between American producers and the Berlin company, or other possible consumers of monazite in Germany, Messrs. E. Zeitz & Co., whose address is given above, are respectfully recommended. It can not be ascertained that any commercial firm in this country makes a specialty of the importation and sale of monazite, such as is consumed being purchased abroad and imported direct by the consumers.

FRANK H. MASON,
Consul-General.

FRANKFORT, *March 25, 1895.*

ART EXPOSITION AT VENICE.

I transmit herewith a copy and a translation of a letter received from the committee of the International Art Exposition to be held in this city between the 22d of April and the 22d of October next. I also inclose a printed programme of the exposition.*

H. A. JOHNSON,
Consul.

VENICE, *March 14, 1895.*

[Translation.]

COMMITTEE OF PUBLICITY AND FÊTES,
INTERNATIONAL ART EXPOSITION OF THE CITY OF VENICE,
Venice, February 14, 1895.

To H. A. Johnson, Esq., Consul of the United States:

You, honored sir, are certainly not unaware of the fact that the city of Venice has decided to inaugurate, under its own patronage, on the 22d of April next, the first of a series of biennial international expositions of the fine arts, destined to commemorate the silver wedding of our august sovereigns.

The genial initiative has met with the greatest possible encouragement. The Government of the King, the municipality, the provincial deputation, the savings bank, the city of Murano and other cities of Veneto, and the teachers' association have offered desirable prizes to the artists of all nations who will be represented at this exposition, among whose patrons are the most prominent persons in the art world of Europe.

The success of the undertaking, from an artistic point of view, being guarantied by the reputation of the members of its committee of patrons, as well as the assurances of the most famous European artists that they will take part, it is desirable to render as pleasant and attractive as possible the sojourn of the many visitors who will be present on this occasion to admire the beauty of our city and the productions of Italian and foreign genius that will be exhibited.

To this end, and under the management of the municipality, a committee has been organized, made up in part of members chosen by distinguished citizens, in part by representatives appointed by the communal council, provincial deputation, and savings bank, for the purpose of arranging public fêtes worthy both of the event and of the city of Venice.

The public, with most praiseworthy enthusiasm and generosity, have subscribed the funds necessary for the work of this committee, thereby enabling it to organize noteworthy fêtes, among which it is decided to make prominent contests in the various athletic sports, which, owing to the fact that the exposition will be open to the champions of all countries, will be in perfect accord with the wishes of the committee.

To give to this feature the greatest possible interest, the committee, counting on the generous support of our own sovereigns and on that of the heads of other nations, has decided to award prizes to the contestants consisting of donations from the rulers of the various nations represented, such prizes, naturally, having special value for the competitors and encouraging an extreme display of effort on the part of the Italian and foreign champions.

The committee feels confident that the heads of foreign nations will not fail to second its efforts, especially when it is borne in mind that the exposition is to commemorate an auspicious event in the history of the House of Savoy and that the exposition proper, as well as the

* Filed in Bureau of Statistics, Department of State.

athletic sports (which are to be conducted in accordance with plans of the local athletic societies) will be open to all nations.

It is for this reason that I address you, as I have done your honorable colleagues, counting on the generous regard shown for Venice by yourself and the nation you so worthily represent here. * * *

A. TREVES,
President, Member of Parliament.

EXPORTS OF ORANGES FROM MESSINA.

I beg leave to call the Department's attention to the following figures showing the phenomenal increase this season in the exportation of oranges from Messina to the United States. From November 1, 1893, to March 31, 1894, there were shipped to the United States from this port 95,376 boxes. From November 1, 1894, to March 23, 1895, the exportations amounted to 338,507 boxes. In other words, for that portion of the season so far completed, the increase over last year is 243,131 boxes, and the remaining period between this date and March 31 will probably swell that increase to 260,000 boxes. These figures are from the official records of the custom-house, which are more accurate than a digest of the consular invoice book would be, the latter containing no account of shipments which are valued at less than $100. When we consider that up to the present date the exportations exceed the total of last season's shipment by 143,290 boxes—the latter only amounting to 195,217 boxes—it is unprecedented.

The reason for the increased exportation is the report that was cabled here that the Florida orange crop had been destroyed. Immediately upon its receipt every shipper turned his attention to oranges, and, I am sorry to say, for many of them it was a costly experiment, for the supply very often exceeded the demand, and the prices obtained in many instances were not remunerative.

The orange season generally lasts until May, but I do not think that the same disproportion will be maintained at the close this year as at present, for the reason that the shippers are disheartened at the low prices obtained, and also because the late crop has suffered material damage from the cold weather and heavy gales which have prevailed here for the last two months; but it is the general opinion that last season's business will be exceeded this season by at least 150 per cent.

To a few, the experience of the last few months has brought some revenue; to many, it has manifested, to their cost, the inexorable laws of supply and demand, but to the commercial world at large, it has proven that even if all the orange groves of all other lands be ravaged by storm and flood, the loss can be bountifully supplied from the inexhaustible mountain sides and valleys of the island of Sicily.

CHAS. M. CAUGHY,
Consul.

MESSINA, *March 25, 1895.*

IVORY TRADE OF ANTWERP.

The Matin, of Antwerp, recently published an article upon the Kongo, in which considerable space is devoted to a statement of the ivory trade. The exportation of ivory from the Kongo, it is stated, has never been pushed. The native tribes have a habit of hoarding the teeth. Many have been preserved for centuries, hidden either in the river beds or in the soil. Antwerp has become the principal market for ivory, as statistics show. From 1888 to 1894, the quantities imported annually were:

	Pounds.
1888	14,109
1889	102,734
1890	170,865
1891	131,174
1892	260,143
1893	493,830
1894	583,117

During these seven years, the total quantity of ivory imported was 1,755,972 pounds, valued, approximately, at $3,524,000.

Prior to 1890, ivory markets were held annually at Antwerp; since that date, however, they occur every three months. At the first sale of 1895, which took place on January 29 and 30, the amount of ivory offered for sale was 135,142 pounds, as compared with 82,673 pounds for the corresponding period in 1894.

Merchants now come from Germany, France, and England. As the ivory is sold at auction and goes to the highest bidder, those who formerly fed the markets of London, Liverpool, and Havre now give the preference to Antwerp. The Niger Company sends its goods to this market.

The total quantities of ivory from the west coast of Africa, offered for sale at the principal markets in 1893, were: Liverpool, 156,527 pounds; London, 243,608 pounds; Antwerp, 487,217 pounds. In 1894, the figures were: Liverpool, 131,174 pounds; London, 153,220 pounds; and Antwerp, 410,066 pounds. As may be observed, the quantity sold in Antwerp in 1894 was about 77,000 pounds less than in 1893. This fact was due to a decreased importation made under agreement by the principal importers.

Owing to the conquest of central Africa by Belgian authority, a considerable quantity of soft ivory is finding a sale at Antwerp. Formerly, it went almost exclusively to London by way of Zanzibar.

There is no reason to fear the exhaustion of the ivory supply. As above mentioned, the ivory crop of centuries is still in the hands of natives, who know where it is hidden. It is estimated that there are also about eighty thousand elephants still living.

HENRY C. MORRIS,
Consul.

GHENT, *March 5, 1895.*

GERMAN OPPOSITION TO ARGENTINE IMPORTS.

In connection with my reports on the attitude of the Agrarian Party in Germany toward imports from the United States, it may be of interest to note a similar attitude of that party toward imports from Rio de la Plata.

The point of attack was made some time ago in the interest of owners of oak wood, the bark of which is used in tanning leather, and directed against quebracho wood, a product of South and Central America. One Argentine kind, especially, the red (*Schinopsis lorentzii*), is used in great quantities here, owing to its very rapid tanning action, besides entering into medicine as quebracho gum.

The German Chamber of Commerce has just sent to the Reichstag a memorial in opposition to the demand made by Freiherr von Heyl and other protectionists in the Reichstag that the Argentine Republic shall be notified by the German Government of the termination of the most-favored-nation contract.

The chamber of commerce points out that the most-favored-nation clause is not the more important arrangement between this country and the Argentine Republic, and that those are in error who think that such a notification can be followed by a war of tariffs and a renewal of commercial contracts. Notification to terminate would simply ruin the German export trade to La Plata, including articles which do not go direct from German seaports, but through other countries. "Then France, Italy, England, and, before all others, the United States, would hasten to occupy a field closed to us by the war of tariffs."

The Agrarians wish to shut out all the chief articles which come into competition with products of German arable land and forests, particularly wheat, quebracho wood, hides, wool, and horsehair. Of late, the increase in wheat from the Argentine Republic has been considerable. While 1890 showed only 318,000 double hundredweights (1,166,771 bushels), 1893 shows 1,736,000 double hundredweights (6,378,659 bushels).

A correspondent of one of the dailies who lived ten years in Buenos Ayres as commission merchant and fourteen years in Brazil, and who has also traveled all about South America, furnishes a short statement, which seems to me worth translating, as throwing a side light on the relations of Germany to North America, because of the likeness between conditions in the Argentine Republic and parts of the United States:

The Argentine tariff law contains a paragraph which reads in translation: "If any country shall place a higher duty on Argentine products than upon goods from other lands, the Executive is then empowered to burden all the imports from that country with a maximum duty—that is to say, with a 50-per cent increase upon such as already pay duty and 15 per cent upon goods which otherwise are duty free."

Now, if, on the German side, the duties intended, or at least projected, for quebracho wood, against which all tanners are protesting, are introduced, and still more, if duties are

placed on wheat, then the opposing duties are all ready and German industries will be less capable of competing with the world, so far as concerns all goods made from leather, because the raw materials will have become so dear.

But Germany also practically gives up a customer which consumes German industrial products to the tune of at least 30,000,000 marks ($6,840,000). England and Italy will be happy enough to enter into the heritage of Germany.

In the new tariff laws of the Argentine Republic for 1895, it is notable to find cotton goods with a duty of only 20 per cent, instead of being burdened, like all the other woven goods, with duties from 25 to 50 per cent. Theoretically, the profit in this reduced tax on cotton goods falls to the good of all countries; but since England satisfies at least four-fifths of the entire consumption with her so-called Manchester goods, as a matter of fact this is a favor in the matter of tariffs which is chiefly enjoyed by England.

It is naturally hard to tell how far these conditions of the duty are to be referred directly or indirectly to English influence; but they ought to cause the entire body of German industries to strive for the same conditions by every organ at their command, and in that way make their own advantages which other nations enjoy. A one-sided action on Germany's part—an order which lays a duty on wheat, quebracho wood, etc.—will at once call forth reprisals which will badly damage German industries.

Is it not the natural way to try to find a *modus vivendi* by the path of negotiation with a country which is in the position to supply us with cheap food stuffs, and, on the other hand, buys our industrial products—a *modus vivendi* which takes into account the interests of both parties? The point of departure in these negotiations must be the recognition of the Argentine Republic as the wheat grower in the market of the world, and for the following reason: The Argentine Republic will and must grow wheat for years to come, because railways have opened up the country and the conditions of the soil are extraordinarily favorable for the growing of wheat. The wheat planter, it is true, obtains on the spot only about half the money which his rival in Germany earns, and nevertheless he is a successful competitor, and why? In the Argentine Republic land is cheap, manure a luxury. The fruitful virginal soil will ask for no manure for years, and meantime continue to be capable of bearing. The whole face of the country is worked with machines. The soil is flat; there are no difficulties as to arable land. The steam plow breaks up the earth by the square mile and steam cars carry the grain to the docks, which are on navigable rivers. These are conditions with which it is necessary to reckon for the time being. Grain—that is to say, wheat—will be made dearer for German consumers by a duty; but it is very questionable whether it will be possible to shut out of consumption the great mass of Argentine products.

I need not call attention to the singular application of this reasoning to the relations between Germany and the United States.

CHARLES DE KAY,
Consul-General.

BERLIN, *February 14, 1895.*

FRENCH RECEIPTS AND EXPENDITURES.

Now that the budget is being discussed in the Chamber of Deputies, it may be interesting to investigate the sources from which France derives its annual revenue and the various directions in which it disburses the same.

In France all leases, contracts, legal, notarial, and other documents, not to mention checks, promissory notes, etc., must be drawn up and written on paper manufactured by and bearing the official stamp of the Government.

Bills of lading, receipts, lithographic posters, etc., are also invalid unless there is affixed to them a stamp about twice as large as that used by the post-office. It is from these stamps and stamped paper and from the registering of contracts, etc., that the treasury derives its principal source of revenue, amounting, in 1894, to $140,000,000.

The internal-revenue tax on wines, spirits, and other drinks amounts to $120,000,000. The custom-house receipts average $100,000,000, and the profits on tobacco, matches, playing cards, and various other articles of which the Government monopolizes the manufacture and sale, yield about $130,000,000 per annum. The French Government suffers no competition in its trade in these products, for it is against the law to import or sell foreign tobacco without paying an enormous duty, and the importation of playing cards and matches is strictly prohibited.

Refiners of sugar pay the State an internal-revenue tax of 0.052 cent for every pound of sugar turned out of their refineries, which not only makes sugar a very expensive article to the consumer, but yields $29,000,000 every year to the Government.

The tax on land brings in $39,600,000, and that on personal property $28,600,000. I may state, by way of parenthesis, that if a clerk occupies a hall bedroom in France, he pays the Government about $2 a year for enjoying that privilege, while his landlady not only has to pay for her poodle, but for every door and window in the house; and when you learn that the treasury receives $12,000,000 a year for windows alone, you may imagine that the architect who can design a house with the least possible amount of ventilation does the best business.

If one owns a horse, carriage, billiard table, or bicycle in France, he must pay the Government a specific tax on the same, and if he fails to do so, his furniture will be seized. The Government collects $6,400,000 every year for permitting such luxuries to exist, and a bill was recently introduced in the Chamber of Deputies imposing a tax on corsets.

The sum of $24,000,000 is deposited in the hands of the officials every calendar year for the privilege or license of carrying on business enterprises.

The foregoing may be taken as the principal sources from which the French nation derives its revenue. It now remains to be seen how the money received is spent, bearing in mind that the figures already given, as well as those which follow, vary from year to year.

The largest sum expended by the Government is that used to pay the interest on the national debt and amounts to $270,000,000 per annum.

It is a frequently repeated assertion that the curse of European nations is their armies, in the support of which they are simply ruining themselves. It costs France $130,000,000 every year to provide food, clothing, fuel, and shelter for an army of 580,000 men, and to feed, shoe, and care for 100,000 horses, and to pay the officials in the war office.

The French navy costs $50,000,000 a year, and expenses in maintaining manufactories of tobacco, matches, playing cards, etc., $12,000,000. France

expends $2,600,000 per annum in salaries to the President, senators, and members of the Chamber of Deputies. The President alone receives $240,000, not to mention a magnificent house in which to enjoy his seven years' term of office.

The maintenance of the Department of Justice, and of the innumerable magistrates, public prosecutors, and others who mete out the tenets of the law throughout the Republic, costs the Government $8,000,000 a year.

The State also pays the priests. Justice has its penalties and fines and brings in certain returns, but the church does not. Hence the latter is a more expensive institution than the former. It costs the State $9,000,000 a year. The expenditure entailed by the Foreign Office, including the salaries paid to its officials, ambassadors, ministers, and consuls, amounts to but little more than one-third of that amount, or, speaking accurately, to $4,000,000.

The sum of $14,000,000 is expended each year by the Minister of the Interior. This includes the salaries of the gendarmes, which are as thick as bees, the maintenance of prisons, prefects, and prefectures, the prefects holding, in a certain degree, the same relation to a department in France as does the governor of a State in America.

The Ministry of Finance disburses $4,000,000 a year, while the support of the colonies and of their officials requires $15,000,000.

The Department of Public Works spends $40,000,000 per annum in building bridges, public buildings, etc. The maintenance of museums and art galleries and the purchase of paintings, bronzes, antiquities, tapestry, and works of art by the Government required, in 1894, $2,000,000.

There are still other expenses incurred by the State which makes it necessary every year for its functionaries to devise means by which the deficit may be balanced. As a rule, some new tax is invented in order to meet the situation. Just how much longer the French can continue to support such an expensive establishment is a matter of speculation.

J. M. WILEY,
Consul.

BORDEAUX, *February 20, 1895.*

EDIBLE SNAILS.

In his report on "Edible Snails in Europe,"* the United States consul-general at St. Gall expresses a doubt whether live snails of the edible kind can with safety be shipped to the United States, and Mr. Roman Seiler, of Aarburg, in a letter to the consul-general, says: "I earnestly believe that, up to this hour, neither a living nor a prepared *Helix pomatia* has been exported to the United States."

*See CONSULAR REPORTS No. 171 (December, 1894), p. 531.

It appears, however, from a report of Consul-General Morss, at Paris, on the same subject, that edible snails of the best quality are being regularly exported to the United States, and, from my own experience, I am satisfied that they will live and thrive in localities and under conditions suited to their nature.

Early in the spring of 1879, a friend of mine who had spent several years in Germany brought me, on his return to the United States, complying with a wish I had expressed some time before, about a dozen or fifteen select specimens of the *Helix pomatia*, which he had packed in moss in a cigar box, while they were still covered with the winter shell, or "lid," as it is generally called. In consequence of too close packing and consequent abnormal temperature, some of them had burst their "lids" and were crawling about; but they were all alive and in good condition. I placed them in an inclosure in a garden surrounding my home at Columbus, Ohio, where, during the summer, they bred and multiplied, although not to the extent I had expected. This was probably due to the unnatural surroundings, the unfavorable condition of the soil in the inclosure, and the extreme heat and long-continued drought, which, however, I tried to counteract by putting up a small grotto of limestones for protection against the rays of the sun, by occasional drenching of the ground, by feeding with juicy leaves, etc.

A goodly number of the young survived the following severe winter, although mice got into the inclosure and probably helped themselves to such of the little snails as they could find hidden under the leaves and hay, with which I had littered the ground late in the fall.

Having attained my object of proving—at least to my own satisfaction—that the *Helix pomatia* would breed and could be propagated in the United States, and being convinced that a confined space in a city lot, with insufficient protection against the hot rays of the summer sun and the piercing frost of the winter, was not the proper place to carry the experiment further, I abandoned my little colony of snails when I moved to a new home and left them to their fate, with the silent hope that they would be able to find a more suitable place, succeed better, and multiply faster if given their freedom and left to themselves. I heard of some of them being seen in the neighborhood some years afterward, but certain it is that they have not multiplied in any alarming degree. The fear expressed by Consul-General Richman, in his report, that this might be the case, and that they might turn out to become as much of a nuisance as the rabbits in Australia, or, he might have added, the English sparrow in the United States, I consider entirely unjustified. The snail is not as fleet of foot and as cunning as the rabbit, nor has it wings as the sparrow; on the contrary, its slowness is proverbial. It can easily be gathered, even by the smallest children, and it has many enemies among the winged as well as unwinged animals, who delight to feed on the delicious morsel so easily apprehended. Besides, it is not as prolific as fish, for instance, and feeds on noxious weeds as well as useful plants.

That snails are not regarded as a medicine, as some seem to think, but as a delicacy, in Europe is sufficiently proven by their large consumption and the comparatively high prices they bring, especially in the largest cities of France, England, and other European countries, where they are regularly found, in their season, even in the finest restaurants. In fact, no one who has ever tasted them will deny that, properly prepared, they form a dainty dish, though—at least fried—they may not be the best food for a weak stomach.

The habits of the *Helix pomatia*, the conditions under which it thrives, its value as an article of food, its treatment and mode of shipment, are amply described in the reports of Consuls-General Morss and Richman. That it can be transported to the United States alive, and that it will breed and multiply there under proper conditions, is beyond doubt; therefore, it is only to be hoped that some one owning a suitable piece of land will make the experiment, and, after a year or two, report the result. The land need not be of much value for other purposes, but it ought to be well shaded and retain sufficient moisture to keep vegetation alive during the hot summer months. A gentle slope at the edge of a wood would be most preferable, but most any ground containing lime and a varied vegetation, with the necessary shade and moisture, will answer for the experiment.

Mr. Roman Seiler, whose address appears in the report of Consul-General Richman, will, no doubt, be glad to furnish the first supply of live snails or eggs and give any further information desired.

WM. F. KEMMLER,
Consul.

HORGEN, *February 16, 1895.*

NOTES.

Government Control of Antidiphtheritic Serum.*—Consul-General Mason, of Frankfort, under date of March 19, 1895, says:

In view of the widely extended use of antidiphtheritic serum in Germany, its high cost hitherto, the care and skill required for its proper preparation, and the danger which may result to patients from the use of adulterated or improperly prepared antitoxine, the Imperial Government has recently taken its manufacture and distribution under its control. A Government official has been placed in charge of the antitoxine department of the *Farbwerke* at Hoechst, as well as the newly established laboratory at Berlin, and under the management of these officers, each dose of serum prepared for sale is inspected and sealed. Thus prepared, it is sold through the licensed apothecaries, who are all under strict official control, so that, in this country, the precautions against abuse of this important remedy are now practically complete. At the same time, the supply of diphtheria antitoxine has fully overtaken the home and foreign demand, and an important reduction has been made in its price. The opening of a new manufactory in Berlin, which, after somewhat slow and difficult preparation, began, in February, to deliver acceptable serum for general use, has brought into effect the element of competition, and as a result of this and the organization of the whole process of manufacture on a practical industrial basis, the selling prices of standard serum have been reduced to less than one-third of its cost a month ago. Whereas the wholesale prices of Nos. 1, 2, and 3, of antitoxine in Germany previous to March 1 were, respectively, $1.42, $2.61, and $3.80 per vial or dose, the present market values for those numbers and the still weaker grade that is now made and used for prophylactic purposes, are as follows: No. 0, 18 cents; No. 1, 47 cents; No. 2, 83 cents; and No. 3, $1.25 per dose, and at these values it it invoiced for export to the United States. For the reasons above indicated, viz, the cost and difficulty of producing absolutely trustworthy serum and the uncertainty with which adulterations and falsifications of such material can be prevented and detected when its manufacture and sale are left open to general competition, the French Government has hitherto confined its preparation to one establishment—the Pasteur Institute, at Paris. The recent action of the German authorities in placing its manufacture and sale under rigid official control would seem, therefore, to confirm a suggestion which may be of value to other countries. If the two nations in which diphtheria antitoxine was invented and has been most extensively produced, tested, and used, find it necessary to supervise so carefully its preparation and sale, a similarly discreet and cautious policy will probably be found advisable elsewhere.

Transandine Railway Guaranty.—Minister Strobel, in a dispatch to the Department from Santiago, Chile, dated February 21, 1895, says:

Before the adjournment of the Chilean Congress, on the 9th instant, a law was passed which guaranties, for twenty years, to the Transandine Railway Company interest at the rate of 4½ per cent per annum on a capital of £1,300,000. The English capitalists with whom the holders of the concession (Messrs. Clark Bros., resident in this country) have been negotiating in order to raise the amount required to complete the road have been demanding, for some time past, a guaranty of 5 per cent, but the Chilean Congress would not go beyond

*For report on manufacture of antidiphtheritic serum in Germany, see CONSULAR REPORTS No. 173 (February, 1895), p. 258.

the rate mentioned of 4½ per cent. As work is being continued on the Argentine side, the hope is generally entertained here that, with the passage of this law, sufficient capital will be obtained for the completion of the entire road by both countries within a few years. The uncompleted portion, however, comprises the most difficult part of the road, and will require almost continual tunneling. The line on the Argentine side is finished as far as Punta de Vacas, and on the Chilean side, as far as Salto del Soldado. This leaves at present unfinished about 75 kilometers (46.6 miles), almost equally divided between the two republics, this distance being at present traversed in seventeen hours—twelve by coach and five on mule back—the whole trip from Valparaiso to Buenos Ayres occupying four days. When the line is finished, it is expected that the journey will be reduced to seventy-two hours.

Imports of Wheat into Germany.—Consul-General Mason, of Frankfort, under date of January 24, 1895, furnishes the following figures of German wheat imports, the figures having been copied from the official reports of the imperial bureau of statistics. The quantities are given in metric tons (2,204.6 pounds).

Whence imported.	1892.	1893.	1894.
	Tons.	*Tons.*	*Tons.*
Belgium	25,016.5	6,761.8	12,279.2
Bulgaria	53,472.7	17,795.1	4,277.8
Denmark	.....	206.8	.....
Netherlands	8,620.6	1,742.7	7,523.4
Austria-Hungary	45,673	23,783.4	16,931.2
France	.....	.....	64
Roumania	91,785	143,577.8	133,454
Russia	257,299	21,636.2	235,445.9
Servia	13,539	5,484.1	671.4
Turkey	20,278.1	3,407.4	0.1
British India	50,908.1	2,869.1	8,733.2
Argentine Republic	66,169.7	151,390.1	319,619
Brazil	151.4	.....	427.8
British America	11,719	3,226.8	299.7
Chile	13,043.6	3,548.2	1,120.3
United States	630,213	314,928.2	305,466.9
Australia	871.3	0.2	.....
Total	1,288,760	700,357.9	1,046,313.9

The salient features in the above comparison are (1) the clearness with which it shows the effect of the Russo-German tariff war of 1893–94 upon the imports of wheat from Russia, and the promptness with which they recovered their normal proportions when the temporary restriction was removed; and (2) the steadily growing importance of the Argentine Republic as a source of supply for the wheat markets of Europe.

Physicians Along the Canadian Border.—Consul Twitchell, of Kingston, Canada, writes to the Department March 27, 1895:

I am informed through the public press—the information being verified by letter—that physicians living south of the Canadian boundary have recently been prohibited from attending

patients living in Canada. I presume that the ostensible reason for this prohibition must be the alleged inferiority of the medical education of these practitioners and the consequent danger to the Canadian people. Of the professional competency of physicians on the American side of the border, I know but little, but the indifference of some of the State governments in the United States to the qualifications of their medical practitioners is in marked contrast with the action of the Province of Ontario. For a number of years the United States seems to have been the dumping ground for medical students who did not apply for or failed to pass the examination required to qualify them to practice in Ontario. If this matter were fully understood by our State governments, I have thought that the instinct of self-protection, combined with State and national pride, would cause them to require as high a standard of proficiency to practice medicine in their State as is required in Canada. During the year 1894, one hundred students graduated from the different medical colleges of Ontario. Of these, fifty-three passed the examination required by the medical council for the practice of medicine in Canada, leaving forty-seven unaccounted for. I think I can safely venture the opinion that if the passage of the examination of the medical council had been required to practice in the United States, forty-seven more medical students would have fitted themselves for the examination.

Spanish Duty on Wheat, Flour, and Bran.—In a dispatch to the Department dated Madrid, February 21, 1895, Minister Taylor says:

I inclose herein, with translation, a copy of a decree of the 10th instant imposing an additional duty upon wheat, flour, and bran imported into Spain from foreign countries. The decree is as follows:

"With the sanction of Her Majesty, the Gazette of to-day publishes the law which establishes an additional duty of 2.50, 4.12, and 2 pesetas (48¼, 79½, and 39.6 cents), respectively, for every 100 kilograms (220.46 pounds) of wheat, wheat flour, and bran which, proceeding from abroad, are imported into the custom-houses of the Peninsula and Balearic Islands. This is to be in force until December 31 of this year, and can be prolonged in the form prescribed in paragraph 3, article 1, of said law, if, under the circumstances, it should then be deemed convenient. This law will be put in force in the Peninsula and adjacent islands from the day after its promulgation in the Gazette of Madrid, according to article 3 of the same. Therefore, the King, and, in his name, the Queen Regent of the Kingdom, has been pleased to order that said increase of duty be applied to wheat, wheat flours, and brans arriving at the Spanish ports and frontiers after midnight of to-day, as well as to those which, being commercially deposited, shall be declared for consumption from to-morrow."

Faster Mails from Great Britain.—Consul MacBride, of Leith (Edinburgh), transmits to the Department, under date of April 8, 1895, extracts from the Glasgow Herald giving details of the new arrangement by which the detention of the Cunard steamers at Queenstown to await the arrival of the mail from London for the United States is obviated. A gain of about four hours is made, permitting the departure from Queenstown of the Cunard steamers at such time as to enable them to arrive in New York before sundown every Friday, and, consequently, to deliver the mails in New York the same day. Heretofore, the steamers frequently reached New York after sundown, and the United States customs authorities refused to permit the landing of either mails or passengers until after 8 o'clock next morning. Thus, there was

delay at both ends of the route. Under the new arrangement, persons in New York will receive their letters in time to answer them by the outgoing steamers on Saturday.

The Food of a Parisian.—Consul Morris, of Ghent, in a report to the Department dated March 4, 1895, says:

Mr. Charles Richet, in his Dictionary of Physiology, which he has lately commenced to publish, makes an interesting estimate of the average amount of daily nourishment consumed by an inhabitant of Paris. He bases his statistics upon the census of 1890. The population of Paris is given as 2,235,000 persons, distributed as follows: Children under 5 years of age, 207,000; between 5 and 10 years, 200,000; between 10 and 15 years, 188,000; persons above 15 years of age, 1,640,000; of this last figure, 750,000 are males and 890,000 females. Considering that the average weight of a man is 145½ pounds and of a woman 125¼ pounds, Mr. Richet fixes the amounts of their respective nourishment as 100 is to 85. He gives the following figures as the amount of daily average consumption by a man living in Paris:

Articles.	Consumption.	Articles.	Consumption.
	Grains.		*Grains.*
Bread	8,025	Rice and feculæ	154
Beef	3,550	Pastry and cakes	309
Pork	617	Sugar	694
Poultry and game	617	Butter	463
Fish	617	Cheese	401
Milk	1,929	Wine	10,802
Eggs	540	Olive oil	185
Fruits	12,346	Cider and beer	772
Fresh vegetables	6,944	Alcoholics	386
Dried vegetables	463	Total	51,203
Potatoes	1,389		

The average total amount of nourishment taken by a male adult of Paris, therefore, is fixed at 51,203 grains, or about 7⅓ pounds. Of this total, the largest proportion is fruit; then wine, bread, vegetables, and meat, in the order of quantity. The average for a Parisian woman is, as previously stated, 85 per cent of the figures heretofore given.

Negro Colony in Mexico.—In a dispatch to the Department, under date of March 6, 1895, Mr. E. C. Butler, secretary of legation at the city of Mexico, states that between seven hundred and eight hundred negro families had recently arrived from the United States at Tlahualilo, State of Durango, as colonists under the federal concession granted to W. H. Ellis, a citizen of the United States. Mr. Butler incloses a copy of the agreement under which the colonists enter Mexico. It recites that Mr. Ellis agrees to furnish 60 acres of land or more, according to size of family or working force; 40 acres to be planted in cotton and 15 acres in corn, to be properly tilled under his supervision, with the right reserved to him in default of proper tillage to employ labor at the expense of the colonist; he gives 5 acres, rent free, to be used solely for raising vegetables for the sustenance of each family; he agrees to

furnish water for irrigation; farming implements and "mules and teams for farming purposes," with food for same, the implements, mules, etc., to be returned to him at the end of the year in good condition; to furnish seeds free, and to gin and bale the cotton for $2.50 per bale of 500 pounds. The colonists are to perform all the labor and receive one-half of the crops. Houses, fuel, and water are provided free, and rations, medicines, etc., are furnished each working hand, the cost to be repaid out of the crops. Land is set apart for a church and a schoolhouse for each one hundred families. The colonists are to receive one-half of the cotton seed, as well as half of all other products raised by them, and they obligate themselves to sell to Mr. Ellis all their cotton, corn, and cotton seed at the market price. The cost of transportation of the colonists is to be advanced, and repaid out of their share of the crops. The period of the agreement is five years, beginning with January, 1895.

The Silver Question in Wurtemberg.—Consul Johnson, of Stuttgart, writes to the Department April 5, 1895:

The silver question in Germany having again been made a subject of active discussion during the past few weeks, I would report the position taken by the business men and commercial exchanges of Wurtemberg. Within the past few days, meetings have been held in Stuttgart, Ulm, Calw, Heidenheim, Heilbronn, Reutlingen, and in nearly all large towns in the Kingdom, to protest against any change in the present monetary system of the Empire. Addresses have been sent to the Wurtemberg Minister of State, with the prayer that the Wurtemberg Ministry will, in conjunction with the other German states, do everything possible to prevent any action that would "shake the firm foundation of the monetary system which has, for over twenty years, proved its inestimable value, and that no concessions whatever shall be made that could possibly be used to endanger that system."

Production of Gold and Silver in Australasia.—Consul-General Maratta, of Melbourne, under date of March 15, 1895, transmits the following statement showing the approximate production of gold and silver in Australasia during the year 1894, from returns furnished by the Government of each colony:

Colony.	Gold.	Silver.
	Ounces.	*Ounces.*
New South Wales	324,787	*846,122
New Zealand	221,533	54,177
Queensland	675,000	163,410
South Australia	†35,844	.....
Tasmania	57,873	(*)
Victoria	673,683	‡50,909
West Australia	207,131	.....
Total	2,195,848	1,115,318

*In addition, silver lead and silver ore were raised, the quantities for 1894 being 20,572 tons in Tasmania and 180,326 tons in New South Wales, valued at $10,683,617.24.

†Quantity received at Melbourne and Sydney mints.

‡Extracted from gold at Melbourne mint.

American Clocks for Singapore.—Consul-General Pratt, of Singapore, writes to the Department February 28, 1895:

I am gratified to report that the publication of my statement regarding the opportunities for the extension in this market of the trade in American clocks has already begun to bear fruit, as appears from a letter I received from Messrs. Henry W. Peabody & Co., of New York, and the reply it has elicited from Messrs. J. Motion & Co., of this city, the firm who first addressed me on this subject, as shown in my report of the 25th of September last.* In their letter Messrs. Peabody & Co. say:

"Our attention is called to an item in the CONSULAR REPORTS for December stating that you have received an inquiry from a well-known Singapore firm concerning American clocks, which they are anxious to take up. Knowing ourselves to be in position to furnish such goods at special figures, we shall be very glad if you can turn the business in our direction. Under separate cover, we mail you a catalogue from the Ansonia Clock Company, and we inclose herewith a memorandum showing special figures at which we can offer their goods packed and delivered in this city."

This letter elicited the following offer from J. Motion & Co., of Singapore:

"If the Ansonia Clock Company feel inclined to give us an opportunity of introducing their clocks in this city and among our clients in the neighboring states, subject to our revised discounts, * * * we will place the following sample order: Four dozen eight-day 8″ in lever strike bell, R. C., all mahogany; 4 dozen one-day 6″ in lever, strike bell, R. C., mahogany; 4 dozen eight-day, sharp Gothic, O. P. gilt sash, strike on bell, all mahogany, veneered (no walnut or other dark wood); 4 dozen 12″ octagon drop, walnut, nebra. and mahogany veneered, assorted gilt edges, strike on bells; 3 dozen 12″ octagon drop, calendar, bells. Through bill of lading New York to Singapore. Terms, bill thirty days' sight on chartered Bank of India, Australia, and China, in pounds, English currency.

* * * * * * *

"After a trial of your clocks we will decide about an agency."

Federal Monopoly of Matches in Switzerland.—Consul Germain, of Zurich, writes under date of March 29, 1895:

An amendment to the federal constitution has just been adopted by the Federal Assembly, as an addition to article 31 of the federal constitution, ratified by the Swiss people May 29, 1874, whereby the manufacture, importation, and sale of matches within the federal territory becomes the exclusive right of the Swiss Government. The gains derived therefrom will not go to the federal treasury, but will be expended, first, toward improving the manufacture of matches, and, second, to reduce as much as possible their selling price. The use of yellow phósphorus in the manufacture of matches is prohibited, because it is injurious to the health of the workmen employed in match factories, and because it is, in many ways, dangerous to the public. The sale of matches, in a retail way, will be open to all, subject, however, to such restrictive regulations as will prevent misuse, the Government supplying the retail trade exclusively. Federal legislation will regulate the traffic.

Cattle Plague in Russia.—According to statistics published by the veterinary section of the Russian Ministry of the Interior, says Consul-General Karel in a dispatch dated St. Petersburg, March 23, 1895, the cattle plague (*Rinderseuche*) appeared in the northern Caucasus in January, 1895, causing

*See CONSULAR REPORTS No. 171 (December, 1894), p. 567.

a mortality of 375 head, distributed among the following districts: In the Kuban district, 134 head; in Ter district, 124; and in the government of Stovropol, 117. No case of the disease appeared in the interior of European Russia. On the other hand, the Siberian plague was brought into twenty-four governments of European Russia, and 232 head of cattle died in the following governments: In Samara, 60; in Astrakhan, 38; in Tula, 15; in Uralsk, 13; in Poltova and Penza, 11; in Kharkov and Kherson, 10. In the Caucasus, only 2 head of cattle died of the same disease—in the district of Ter.

Cracked Oats in Germany.—Consul Stephan, of Annaberg, writes under date of March 21, 1895:

"Beware of American cracked oats," is, in substance, the cry the agrarian press is raising just now. A certain American firm has introduced cracked oats, with apparent success, and is advertising everywhere, after the American style. The people are interested in, and are buying this product, because they readily see the advantage of it over the product of the Hohenlohe'sche Präserven-Fabrik, in Gerabronn, which grinds the oats too fine. The agrarians are determined not to allow any American agricultural product to enter into competition with their own, and if they can not exclude it on hygienic grounds, they will demand from their Government a prohibitive tariff. We may, therefore, feel justified in expecting, on their part, an attempt to have the customs duty on this "transoceanic product" advanced high enough to keep it out. In the meantime, however, the people will buy and eat, for once, a cheap, but good, food.

Cuban Sugar Statistics.—Under date of April 6, Consul-General Williams, of Habana, transmits to the Department statistics prepared by Mr. Joaquin Gama, showing the exports and stocks on hand of Cuban sugar for the first quarters of 1894 and 1895, from which it appears that 249,049 tons were exported during the first quarter of 1895, against 402,586 tons during the same quarter in 1894—a decrease of 153,537 tons. The stock of sugars on hand on the 31st of March, 1895, is given at 318,229 tons, against 256,133 tons at the same date in 1894—an increase of 55,096 tons. Of the 249,049 tons exported during the first quarter of the present year, 228,889 tons were exported to the United States, 14,862 tons to Spain, and the balance (5,298 tons) to Canada. The tons here given are metric tons of 2,204.6 pounds. Consul-General Williams states that of the exports, 92 per cent have gone to the United States and 8 per cent to other countries.

Slate Beds for Billiard Tables in Venezuela.—Consul Plumacher, of Maracaibo, transmits to the Department, March 28, 1895, a recent executive resolution fixing the duties upon slate beds for billiard tables in Venezuela as follows:

By resolution of February 18 last, it was decreed by the Ministry of Finance that slate beds for billiard tables, which are not specified in the import tariff law, shall be scheduled in the second class—2 cents per kilogram (2.2046 pounds)—in which are included framed slates and slate for roofing.

Teaching of Turkish in Turkish Schools.—Minister Terrell, in a dispatch dated Constantinople, March 18, 1895, transmits a clipping from the Levant Herald, which shows that the order for compulsory instruction in the Turkish language in village schools has been cancelled. The Herald says:

As decided by the decree of the council of ministers, communicated to the several patriarchates, the teaching of the Turkish language will not be obligatory in the non-Mussulman schools of villages. It will, however, be included in the programme of study of the non-Mussulman educational institutions in the towns of the Empire.

Architectural Competition in Cairo.—In a dispatch dated March 22, 1895, Consul-General Penfield states that in the recent competition of designs submitted for the new Egyptian museum in Cairo, which contest was open to the architects of the world, none of the several American competitors were adjudged a prize. All the prizes offered by the Khedivial Government—five in number and aggregating $5,000—were secured by Paris architects. Eighty-eight architects, representing nearly every European country, as well as the United States, participated in the competition.

Additional Tariff Taxes in Colombia.—Consul Bidlake, of Barranquilla, under date of April 2, 1895, informs the Department that, on April 1, a new order went into effect by which an export tax, or duty, of $2 per sack of 125 pounds of coffee is charged by the Government of Colombia, and an additional 15 per cent is added to the present import duties.

Errata.—In CONSULAR REPORTS No. 175 (April, 1895), p. 560, in third line from top of page, the word "unfortunately" should be "fortunately."

In the table of contents for the same number, "Modification of the American Tariff" should read "Modifications of the Mexican Tariff."

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of April to other Departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
E. Schneegans, Saigon	Feb. 9, 1895	Rice report	Department of Agriculture.
Do	Feb. 23, 1895	do	Do.
Geo. H. Murphy, Luxemburg	Mar. 26, 1895	Pisciculture	Fish Commission.
Daniel W. Maratta, Melbourne.	Mar. 15, 1895	Production of gold and silver.	Director of the Mint.
Edward H. Strobel, Santiago	Feb. 21, 1895	Transandine Railway Company.	Intercontinental Railway Commission.
H. J. Sommer, jr., Bombay		Agricultural reports	Department of Agriculture.
R. J. MacBride, Leith (Edinburgh).	Apr. 8, 1895	Clipping from Glasgow Herald.	Post-Office Department.

FOREIGN REPORTS AND PUBLICATIONS.

International Expositions.—The Revue du Commerce Extérieur (Review of Foreign Commerce) of Paris of March 23 and April 6, 1895, contains the following notes upon international expositions and museums:

The National Horticultural Society of France, the seat of which is at Paris (Grenelle street, No. 84), is organizing an international exposition of horticulture. This exposition is to be held at the Tuileries Garden from the 22d to the 28th of May next.

The third annual international exposition of confectionery, bread making, pastry, and groceries will take place at London from the 21st to the 28th of September next. All communications relating to this exposition must be addressed to M. W. E. Ayrwin, managing director, exhibition office, 27 Leadenhall street, London, E. C.

The national exposition which is to be opened at Nijni-Novgorod, Russia, on the 15th of May, 1896, for a period of four months, is receiving more and more attention from the manufacturers of Moscow. All have solicited admission to it and are preparing to participate in proportion as their applications are granted. They will second energetically the efforts of the Imperial Government, which devotes to this undertaking a sum of more than 4,000,000 rubles ($1,456,000), and wishes it to be a national success. The exposition is to be coincident with the annual fair; it is possible that it may also coincide with the coronation of the Emperor Nicolas II. While the work of construction is being carried on, they are endeavoring to put the city in a state for receiving, besides the ordinary patrons of the fair, the considerable number of visitors whom the coronation fêtes would attract to the city and who, from Moscow, would doubtless proceed to the neighboring exposition. The streets of Nijni-Novgorod have to be repaired, and the theater and the palace of the district court are to be transformed into hotels and restaurants. As the actual number of cabs, or *izvostchiks*, is insufficient, the commission of the exposition proposes to buy a certain number of cabs and sell them to cabmen, granting them special facilities for payment. An electric railroad will connect the fair with the exposition.

By ministerial decision, M. Th. Bilbant, formerly commissioner for the French colonies at Chicago and at Antwerp, has been appointed to the same office for the exposition at Bordeaux, France.

The central committee of the Swiss National Exposition has accepted the offer of the Horticultural Society of Geneva to organize, on the occasion of this exposition, an international competition for the handsomest collection of blooming plants in vases. The person who wins the prize of the international competition will receive a gold medal worth 300 francs ($57.90) and 900 francs ($173.70) in cash.

Commercial League of Great Britain and Her Colonies.—The project for a new commercial league or union for Great Britain and her colonies and dependencies, which has already been initiated, says the London Times of April 3, 1895, "has so far progressed that it has received the written assent of the leading merchants, financiers, and traders of the city and port of Lon-

don, and a complete scheme will shortly be promulgated inviting the adhesion of the great provincial centers of commerce, and of all the colonial interests concerned. The idea is to follow, and, if possible, improve upon the example of France and Germany, and establish a complete union for mutual concessions and arrangements in trade matters. The precise title and detailed objects of the league will have to be settled after full conference and correspondence with representatives of the colonies; but, so far, it is understood that 'federation' is decidedly objected to, and that 'imperial commercial union' would be the name finding most favor."

Foreign Trade of the United Kingdom.—The following statistics showing the imports and exports of the United Kingdom for the month of March and for the three months ending March 31, 1894 and 1895, are compiled from British official returns. Similar statistics for the months of February and January, 1895, will be found in CONSULAR REPORTS Nos. 175 and 174, respectively:

Imports and exports during March, 1894 and 1895.

Articles.	1894.	1895.	Increase.	Decrease.
Imports.				
Animals, living (for food)	$3,391,514	$3,021,645		$369,869
Articles of food and drink:				
Duty free	53,914,754	52,023,374		1,891,380
Dutiable	10,226,045	11,924,702	$1,698,657	
Tobacco, dutiable	1,130,211	1,117,949		12,262
Metals	8,700,668	6,870,159		1,830,509
Chemicals, dyestuffs, and tanning substances	3,960,856	4,308,974	348,118	
Oils	3,027,438	3,310,325	302,887	
Raw materials for textiles	35,347,466	39,170,147	3,822,681	
Raw materials for other industries and manufactures	11,921,938	15,236,599	3,314,661	
Manufactured articles	31,758,241	31,667,947		90,294
Miscellaneous	8,171,333	6,031,431		2,131,902
Parcel post	369,655	398,307	28,752	
Total imports	171,900,119	175,081,559	3,181,440	
Exports.				
Animals, living	157,980	205,895	47,915	
Articles of food and drink	3,927,917	3,965,926	37,979	
Raw materials	7,256,880	6,904,659		352,221
Articles manufactured and partly manufactured:				
Yarns and textiles fabrics	40,610,249	41,388,347	778,098	
Metals and manufactures of	10,909,051	10,846,976		62,075
Machinery and millwork	5,057,351	5,458,095	400,744	
Apparel and personal articles	3,662,509	3,783,539	121,030	
Chemicals, chemical products, and medicinal preparations	4,028,274	3,597,283		430,991
All other articles	12,002,281	13,466,125	1,463,844	
Total manufactures	76,269,715	78,540,365	2,270,650	
Parcel post	456,441	516,219	59,778	
Total British goods	88,068,963	90,133,064	2,064,101	
Foreign products	25,998,483	23,583,551		2,414,932
Total exports	114,067,446	113,716,615		350,831

Imports and exports during the three months ending March 31, 1894 and 1895.

Articles.	1894.	1895.	Increase.	Decrease.
Imports.				
Animals, living (for food)	$8,169,110	$7,702,646		$466,464
Articles of food and drink:				
Duty free	161,158,774	151,943,428		9,215,346
Dutiable	28,610,319	29,340,404	$730,085	
Tobacco, dutiable	2,826,761	3,118,825	292,064	
Metals	24,544,189	21,015,387		3,528,802
Chemicals, dyestuffs, and tanning substances	11,184,125	10,249,933		934,192
Oils	8,726,316	8,570,291		156,025
Raw materials for textiles	135,532,868	118,859,218		16,673,650
Raw materials for other industries	37,180,907	37,496,481	315,574	
Manufactured articles	83,786,129	85,487,410	1,701,281	
Miscellaneous articles	22,715,953	15,696,613		7,019,345
Parcel post	970,192	1,342,521	372,329	
Total	525,405,643	490,823,157		34,582,491
Exports.				
Animals, living	394,083	568,458	174,375	
Articles of food and drink	11,210,999	10,436,773		774,226
Raw materials	23,064,309	18,578,344		4,485,965
Articles manufactured and partly manufactured:				
Yarns and textiles	126,131,746	125,454,849	676,897	
Metals and manufactures of	31,322,033	29,559,526		1,762,507
Machinery and millwork	14,724,764	15,690,966	966,202	
Apparel and personal goods	11,537,264	11,046,954		480,310
Chemicals, chemical products, and medicinal preparations	10,924,258	9,806,995		1,117,263
All other manufactures	31,951,804	36,032,360	80,556	
Total manufactures	226,591,869	225,591,650		1,000,219
Parcel post	1,160,537	1,338,962	178,365	
Total British goods	262,421,797	256,514,187		5,907,610
Foreign products	71,295,346	63,947,639		7,347,707
Total exports	333,717,143	320,461,826		13,255,317

Petroleum Trade of the Far East.*—The London and China Telegraph of March 18, 1895, says:

We recently drew attention to the petroleum trade in the far East, pointing out that the American Standard Oil Company have developed such a trade in Europe that they have now almost a difficulty in supplying that trade alone, and that in consequence the keen rivalry that was anticipated between American and Russian oil in the East was not likely to be prolonged. As supplementary to and in corroboration of those remarks, we may quote the following from Mr. J. Lyall's annual review of the kerosene-oil trade in Singapore in 1894. Mr. Lyall writes:

"Six years ago I ventured to express an opinion that the American oil trade of the Straits was in jeopardy. The close of this year witnesses its total extinction. The recent invaders—Russian bulk and Sumatra case oil—have practically captured the market, and our American friends and their allies—the Singapore merchants, English and German—have now to take a back seat and look on. I am myself, in my capacity of chronicler of the trade, also thinking of retiring, for the new importers do not approve of published statistics and refuse me infor-

*See CONSULAR REPORTS No. 173 (February, 1895), pp. 281, 282, 283, and 310, and No. 171 (December 1894), p. 557.

mation. The import and consumption for the year have been well maintained. Of American oil there have been no arrivals since May. Russian case-oil shipments have also ceased. Russian bulk oil passes through freely to the north, and the tanks here can be supplied as wanted. The imports of Langkat oil, it should be mentioned, do not represent all the shipments brought in. A considerable quantity is regularly transshipped by the agents to outports, chiefly Bangkok and Saigon, and therefore do not come within the scope of this local report. Rumors of openings in Sumatra by new companies have been current during the year, but up to the present nothing seems to have been done. Prices during the year have remained without much fluctuation."

The total imports in 1894 were 582,200 cases, against 626,115 cases in 1893. The stock on December 31 was 140,000 cases, against 157,950 cases in 1893. The total imports of 1894 of 582,200 cases were made up as follows: American, 175,000 cases; Russian, 8,000 cases; Russian bulk, (equal to) 153,000 cases; and Sumatra, 246,200 cases.

CONTENTS.

Page.

I.—ORIENTAL MARKET FOR DAIRY PRODUCTS AND FRUITS..... 193
(China, 193—India, 196—Dutch East Indies, 197—Japan, 198—Persia, 200—Syria, 203—Philippine Islands, 205—Siam, 206—Straits Settlements, 209—Australasia, 211.)

II.—GRASSES AND FORAGE PLANTS OF FOREIGN COUNTRIES..... 227
(Argentine Republic, 228—Paraguay, 229—France, 229—Germany, 231—Great Britain, 237—Switzerland, 243—Norway, 244—Turkey, 249—Tasmania, 249—Straits Settlements, 249.)

III.—TARRED-FELT ROOFING PAPER..... 250
(Belfast, 250—Birmingham, 252—Bradford, 253—Bristol, 254—Cardiff, 255—Cork, 256—Dublin, 256—Dundee, 257—Dunfermline, 257—Glasgow, 257—Huddersfield, 258—Hull, 259—Leith (Edinburgh), 259—Liverpool, 261—London, 262—Manchester, 262—Newcastle, 263—Nottingham, 263—Plymouth, 263—Sheffield, 264—Tunstall, 264.)

IV.—A GERMAN VIEW OF AMERICAN IMMIGRATION.....*Stern* 265

V.—ARTIFICIAL SILK IN SWITZERLAND.....*Kemmler* 266

VI.—THE SWISS ALCOHOL MONOPOLY.....*Germain* 268

VII.—CARDIFF COAL TRADE.....*Howells* 271

VIII.—PAPER INDUSTRY IN AUSTRIA.....*Judd* 274

IX.—MANUFACTURE OF GUT STRINGS IN SAXONY.....*Gottschalk* 275

X.—MOVEMENT OF POPULATION IN FRANCE.....*Morss* 283

XI.—EXPORTS DECLARED FOR THE UNITED STATES..... 285
(Germany, 285—The United Kingdom, 293.)

XII.—THE BELGIAN BUREAU OF LABOR.....*Morris* 299, 364

XIII.—PRODUCTION OF COAL.....*Grinnell* 301

XIV.—STRIKES IN AUSTRIA.....*Judd* 303

XV.—BRITISH EXPORT OF TIN PLATE.....*Harris* 305

XVI.—UNITED STATES VESSELS AT BARCELONA.....*Bowen* 306

XVII.—CUBA'S INDUSTRIAL BURDENS.....*Williams* 307

XVIII.—PAPER AND PAPER MANUFACTURES IN SWITZERLAND.....*Germain* 308

XIX.—RAILWAY ENTERPRISE IN EGYPT.....*Penfield* 310

XX.—EVAPORATED APPLES IN GERMANY.....*Krauss* 311

XXI.—APPARATUS TO PREVENT SINKING OF BOATS.....*Stern* 313

XXII.—NEW RAILROAD TARIFF IN RUSSIA..... 315
XXIII.—RUSSIAN KEROSENE INDUSTRY.....*Karel* 318
XXIV.—RUSSIA'S GRAIN SUPPLY..... 322

Page.

XXV.—THE TRADE OF CHINA AND JAPAN.....*Jernigan* 324

XXVI.—REVIEW OF CHINA'S TRADE.....*Denby* 335

XXVII.—COMMERCIAL PROVISIONS OF THE TREATY BETWEEN CHINA AND JAPAN.....*Denby* 339

XXVIII.—TEA TRADE OF CHINA.....*Child* 340

XXIX.—MISSIONARIES AND CHINESE TRADE.....*Denby* 342

XXX.—AMERICAN HARDWARE AND MACHINERY IN SWITZERLAND.. *Richman* 343, *Kemmler* 344

XXXI.—PROPOSED BELGIAN DUTY ON FLOUR.....*Roosevelt* 352

XXXII.—NEW TARIFF OF BARBADOS.....*Tate* 354

XXXIII.—FOREIGN EXPOSITIONS..... 358

(Berlin Exposition of 1896, 358—American Exhibits in Berlin, 359—Exhibition at Lübeck, 362).

XXXIV.—RUSSIAN CATTLE AND MEAT PRODUCTS.....*Kürel* 362, 364

XXXV.—NOTES (Export Duty on Java Sugars—Philadelphia Commercial Museum—Ice Saws for Opening Navigation—Business Outlook in Brazil—Emigration from Wurtemberg—Prices of Petroleum in Luxemburg—Removal of Weeds in New Zealand—Remedy for Potato Disease—Cable between Mozambique and Majunga—Steamship Service from Central America—Shipments from Halifax to Colon—Shipping Concessions for Madeira—Nitrate Shipments to the United States—Cholera in Russia—State Aid to British Industrial Schools—Steam Tramway in Venezuela—Venezuelan Regulations as to Baggage—Venezuelan Duty upon Bitters—Dairy Farming in Canada—Abatement of Export Tax in Puerto Rico—Foreigners in German Technical Schools—Swiss Exposition of 1896—Consular Reports Reprinted Abroad)..... 365

XXXVI.—FOREIGN REPORTS AND PUBLICATIONS (Uruguayan Agricultural Exhibition—Photographic Exhibition at Moscow in 1896—Permanent Industrial Exhibition at Athens—Imports Prohibited by Russia—Castor-Oil Production in France—Foreign Trade of the United Kingdom—Imports and Exports of Canada—East Indian Cotton Crop of 1894–95)..... 375

REPORTS BY COUNTRIES.

ARGENTINE REPUBLIC: Page.

Grasses and forage plants of..... 228

AUSTRALASIA:

Market for dairy products and fruits in New Zealand..... 225

Market for dairy products and fruits in Newcastle, N. S. W..... 211

Market for dairy products and fruits in Queensland..... 219

Market for dairy products and fruits in Sydney, N. S. W..... 220

Market for dairy products and fruits in Victoria..... 221

AUSTRIA:

Paper industry in..... 274

Strikes in..... 303

AUSTRIA-HUNGARY:

Production of coal in..... 303

BARBADOS:

New tariff of..... 354

BELGIUM:

Bureau of labor in.....299, 364

Ice saws for opening navigation in..... 367

Production of coal in..... 301

Proposed duty on flour in..... 352

BRAZIL:

Business outlook in..... 368

CANADA:

Dairy farming in..... 373

CENTRAL AMERICA:

Steamship service from..... 370

CHILE:

Nitrate shipments to United States from..... 371

CHINA:

Commercial provisions of the treaty between Japan and..... 339

Market for dairy products and fruits in Hongkong..... 193

Market for dairy products and fruits in Tien-Tsin..... 195

Missionaries and Chinese trade..... 342

Review of trade of..... 335

Tea trade of..... 340

The trade of..... 324

COLOMBIA:

Shipments from Halifax to Colon..... 371

	Page.
CUBA:	
Industrial burdens of	307
DUTCH EAST INDIES:	
Market for dairy products and fruits in Padang (Sumatra)	197
EGYPT:	
Railway enterprise in	310
FRANCE:	
Grasses and forage plants of	229
Movement of population in	283
Production of coal in	301
GERMANY:	
A German view of American immigration	265
American exhibits in Berlin	359
Apparatus to prevent sinking of boats in	313
Berlin exposition of 1896	358
Emigration from Wurtemberg	368
Evaporated apples in	311
Exhibition at Lübeck	362
Exports declared for the United States from	285
Foreigners in German technical schools	373
Grasses and forage plants of	231
Manufacture of gut strings in Saxony	275
Production of coal in	301
GREAT BRITAIN:	
Cardiff coal trade	271
Export of tin plate from	305
Grasses and forage plants of	237
Tarred-felt roofing paper in	250
HUNGARY:	
Production of coal in	303
INDIA:	
Market for dairy products and fruits in Bombay	196
Market for dairy products and fruits in Calcutta	196
JAPAN:	
Commercial provisions of the treaty between China and	339
Market for dairy products and fruits in Kanagawa	198
Market for dairy products and fruits in Osaka and Hiogo	199
The trade of	324
JAVA:	
Export duty on sugars in	365
LUXEMBURG:	
Prices of petroleum in	369
MADEIRA:	
Shipping concessions for	371

	Page.
MOZAMBIQUE:	
Cable between Majunga and	370
NEW ZEALAND:	
Removal of weeds in	369
NORWAY:	
Grasses and forage plants of	244
PARAGUAY:	
Grasses and forage plants of	229
PERSIA:	
Market for dairy products and fruits in	200
PHILIPPINE ISLANDS:	
Market for dairy products and fruits in	205
PUERTO RICO:	
Abatement of export tax in	373
RUSSIA:	
Cattle and meat products of	362
Cholera in	371
Grain supply of	322
New railroad tariff in	315
Kerosene industry of	318
SIAM:	
Market for dairy products and fruits in	206
SPAIN:	
United States vessels at Barcelona	306
STRAITS SETTLEMENTS:	
Grasses and forage plants of	249
Market for dairy products and fruits in	209
SWITZERLAND:	
Alcohol monopoly in	268
American hardware and machinery in	343
Artificial silk in	266
Exposition of 1896	374
Grasses and forage plants of	243
Paper and paper manufactures in	308
SYRIA:	
Market for dairy products and fruits in	203
TASMANIA:	
Grasses and forage plants of	249
TURKEY:	
Grasses and forage plants of	249
UNITED KINGDOM:	
Exports declared for the United States from	293
Production of coal in	301

UNITED STATES: Page.
Philadelphia commercial museum..... 365
Production of coal in..... 302
Remedy for potato disease in..... 370
VENEZUELA:
Duty upon bitters in..... 373
Regulations as to baggage in..... 372
Steam tramway in..... 372

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*....	Gold and silver...	Peso.....	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium.....	Gold and silver...	Franc.....	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland)).	..... do.....	Dollar.....	1.00	
Chile‡.....	Gold and silver....	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba.....	.....do.....	.....do.....	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark.....	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Egypt.....	.....do.....	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	.....do.....	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France.....	Gold and silver....	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany.....	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do.....	Pound sterling.....	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver....	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.....	.....do..	Gourde.....	.96,5	Silver—gourde.
Italy.....	.....do.....	Lira.....	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.....	Gold	Dollar.....	1.00	
Netherlands‡.....	Gold and silver....	Florin.....	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland.....	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Portugal.....	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.....	Gold and silver....	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland.....	Gold and silver....	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.....	Gold	Piaster.....	.04.4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela.....	Gold and silver....	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

*In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

†On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

‡The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	.....	.....
China	Silver	Haikwan tael	1.61	1.61	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	.....	.....
	Silver		.....	.....	.....	.....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	.....	.....	.....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	.....	.....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1892.				1893.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Austria-Hungary *	Gold crown				$0.20,3				
	Silver florin	$0.34,1	$0.32,8	$0.32					
Bolivia	Silver boliviano	69,1	.66,5	.64,9	.61,6	$0.61,3	$0.61	$0.60,4	$0.53,1
Central America	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
China†	Shanghai tael	1.02,1	.98,2	.95,8	.91	.90,6	.90,1	.89,2	.78,4
	Haikwan tael	1.13,7	1.09,3	1.06,7	1.01,3	1.01	1.00,4	.99,4	.87,4
Colombia	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Ecuador	do	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
India	Silver rupee	.32,8	.31,6	.30,8	.29,3	.29,2	.29	.28,7	.25,2
Japan‡	Silver yen	.74,5	.71,6	.69,9	.66,4	.66,1	.65,8	.65,1	.57,3
Mexico	Silver dollar	.75	.72,2	.70,4	.66,9	.66,6	.66,2	.65,6	.57,7
Peru	Silver sol	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Russia§	Silver ruble	.55,3	.53,1	.51,9	.49,2	.49,1	.48,8	.48,3	.42,5
Tripoli	Silver mahbub	.62,3	.60	.58,5	.55,5	.55,3	.55	.54,5	.47,9
Venezuela ‖	Silver bolivar	.13,8	.13,3	.13	.12,3				

Countries.	Monetary unit.	1894.				1895.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1
Central America	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
China †	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67,3	.65,2
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6
	Tien-Tsin tael				.72,7	.71,4	.69,2
	Chefoo tael				.71,7	.70,4	.68,3
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21,0
Japan‡	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1
Russia§	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8

* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

§ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

‖ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096 5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110 24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.71 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4 2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264 17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3 5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	1138 bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1 0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅘ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0 338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

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ORIENTAL MARKET FOR DAIRY PRODUCTS AND FRUITS.

The following reports of consular officers upon the market for American dairy products and fruits in Oriental countries and Australasia were made in response to a Department instruction, which says:

The Department has been requested by the editor of leading agricultural publications in the United States to secure, through the consular officers of the United States in China, Japan, and other Oriental countries, reports on the markets in those countries for butter, cheese, apples, etc. The editor further says that an extensive trade in apples from the Pacific coast ports is being built up, and that it is highly important that our fruit growers in California, Oregon, and Washington should know the possibilities of foreign markets, not only for dairy produce and apples, but for other fruits and produce.

You are therefore requested to report upon the consumption in your district of dairy produce and fruits of all kinds in their various forms, raw and prepared; the share of the United States in said consumption; and the best means for the enlargement of the trade in our products. You will give as many details as possible regarding the form in which the foregoing products are placed upon your market by other countries, the quantities and qualities, and how the American products stand in comparison therewith; what changes, if any, are necessary to make the American products more pleasing and satisfactory to the consumers, together with such other information as, in your judgment, may help the American producer to a better understanding of the demands of the foreign consumers.

The Australasian colonies are included in this circular, and the consuls in the several colonies will report accordingly.

CHINA.

HONGKONG.

Fruit growers and others in the United States who are looking forward to an extensive trade in dairy produce and fruits in this region will be disappointed, though an established agency may overcome competition. The

enterprise can be built up only on its own merits, and even then, after removing the cause of adverse influences, it is not to be expected that this source of revenue would be great. The figures given herein for imports from the United States in this line indicate that the United States are getting their small share of the trade. Although the European and American communities in this colony are luxurious in their habits, it is not generally known how small they are. Out of an estimated population of 230,000 there are under the head of Europeans, including Portuguese, only 4,195. Deducting the mixed race of Portuguese, numbering 2,089, as they are too poor to indulge in luxuries, there are only 2,106 to be considered as possible purchasers. There is, of course, a small percentage of well-to-do Portuguese who may be included. The better class of Chinese add but little to this trade, and an agency can scarcely be expected to work up a trade with Chinese laborers.

Apples exported from the United States in the spring arrive in a damaged condition, on account of the climate. Fruit importation into Hongkong from the United States has to compete with pears and grapes from Tien-Tsin and Chefoo via Shanghai (ten days' voyage), pineapples, pumeloes, oranges, lungngan, and lichee from Canton, Swatow, and Amoy (one to three days' voyage); mangoes from Manila and Amoy (three to five days' voyage); cocoanuts, pumeloes, and mangosteens from Saigon, Bangkok, and Singapore (three to six days' voyage); raisins from the Levant, Turkey, and Holy Land (three weeks' voyage).

Canned fruits come to Hongkong chiefly from England, a little from Australia, of late years, and very largely from the United States. Hongkong is a good distributing point, being the center of trade for the coast ports of China; the same can be said as to the surrounding districts, but the consumption is small.

I respectfully submit herewith a statement from the Pacific Mail Steamship Company, giving statistics of apples shipped to Hongkong from San Francisco for the fiscal year ending June 30, 1894:

Name of steamship.	Quantity.	Name of steamship.	Quantity.
	Boxes.		*Boxes.*
Peru	194	Gallic	220
City of Rio de Janeiro	246	China	304
City of Peking	181	Belgic	298
City of New York	136	Oceanic	326
Peru	244	Gallic	250
City of Rio	334	China	486
City of Peking	341	Oceanic	10
Belgic	85		
Oceanic	202	Total	3,857

It will be seen from the above that comparatively few apples from the Pacific coast are disposed of here. They do not appear to be sufficiently hardy to stand the rigor of the voyage. What few reach here in good condition are readily salable at good prices.

There are two articles—condensed milk and raisins—from the United States which are used by Europeans and Chinese, and should command an important place in the market. I might add that butter, ham, and bacon, and all kinds of salt meats are in demand at a small profit; however, it is necessary to improvise a new mode of packing them superior, or, at least, equal to that of Europeans. Glass jars for pears might answer.

It is absolutely necessary in this climate to protect any perishable freight, as the voyage is too long to avail of cold storage. I learn that an enterprising firm once undertook to get a place in this market for butter. The first cargo came in most satisfactorily; subsequently, it was inferior, thereby causing distrust and resulting in failure.

Nearly all of the butter consumed at this port comes from Europe, a small percentage from Australia. As for cheese, the United States compares very favorably with the European supply, but it would command a better place in this market if it were put up in smaller sizes.

At the present time, there is depression in all lines of trade. As this is a free port, I can not obtain reliable statistics as to the aggregate export trade from the United States to Hongkong. It is well, however, to note with reference to raisins, condensed milk, and fruits and dairy products generally, that active agencies would doubtless stimulate the trade. American interests and exporters are placed at a disadvantage in comparison with Europeans, owing to the absence of American firms, not only at this port, but in the open ports of China.

W. E. HUNT,
Consul.

HONGKONG, *October 1, 1894.*

TIEN-TSIN.

The market in this consular district for such American produce as is referred to in the circular is now, and necessarily will be, strictly confined to the small number of Americans and Europeans residing in northern China. Chinese fruits seem to foreigners very inferior, but they are highly satisfactory to the palates of the Chinese, who crave nothing better. Butter, cheese, etc., form no part of a northern Chinaman's bill of fare, and I see no prospect of any change in the dietary habits of the conservative Chinaman. The small market which exists among the foreign residents is supplied in part from Europe and in part from California. The total value of the fruits, dairy products, etc., which could be consumed by the foreigners resident within the consular district of Tien-Tsin would be so small that any details or suggestions which I might give would be valueless to American exporters.

SHERIDAN P. READ,
Consul.

TIEN-TSIN, *September 5, 1894.*

INDIA.

BOMBAY.

California canned fruits and preserves are considered the best in the Bombay market, and are by far the cheapest. The only fruit of which complaint is made is the strawberry. I have been informed by a leading dealer that the strawberries are mashed and not to be recognized as such by the time they reach Bombay; on the contrary, the French strawberry is whole when it reaches here, hence there should be some improvement made in putting up this fruit. The dealers hint that the French berries are prepared in a chemical manner.

Most of the Californian fruits that are brought to Bombay come from New York instead of direct from western ports, which, of course, increases the selling price at this end.

The dealers inform me that no improvement whatever can be made on the packing, etc., which would lead to an increase in the trade, and that the goods will hold their own against those of any other foreign country.

From all that I have been able to learn, there is no butter or cheese imported from the United States. To increase the trade in these articles, arrangements should be made with some well-established firm to look after the interest of the American dealers.

I do not think raw fruits could be introduced here on account of the distance, unless they could be shipped direct in refrigerator steamers.

H. J. SOMMER, JR.,
Consul.

BOMBAY, *September 11, 1894.*

CALCUTTA.

There is but small, if any, chance of the fruit growers of the United States being enabled to gain a market of any value in Bengal. The chief reasons are that the people are poor, that they have an exceedingly ample supply, at a cheap price, of tropical fruit of a superior kind, and the great cost of shipping from the United States to Bengal of such perishable products as fruits. At one time, a few barrels of apples from Maine were sold here every year. These, being brought out in the ice ships, could, of course, be put on the market with practically no charge for freight, and but little waste by decay. Manufactured ice has killed the shipping of ice, and with it the small trade in apples.

As to fruits and vegetables, dried, salted, or preserved, the total amount imported from all countries, as shown by custom-house returns, only aggregate between $3,000 and $4,000 worth, about one-half of which is cred-

ited to the United Kingdom. There are some American products sold in the market, but it is not possible to get at the quantity, which is very small, however, as they are entered under the head of goods from Hongkong and the Straits Settlements, the points of transshipment.

About $40,000 worth of cheese is imported, practically all coming from the United Kingdom. Some of this could, of course, be supplied from the dairies of the United States, but the size of the market would, perhaps, not justify the labor and expense which would be necessary to educate it to taking American cheese; especially considering the advantage the English manufacturers have in continuous connection by steam vessels, and the further fact that most of the cheese is consumed by Englishmen, who want the article they have always been accustomed to.

VAN LEER POLK,
Consul-General.

CALCUTTA, *September 11, 1894.*

DUTCH EAST INDIES.

PADANG (SUMATRA).

In my district, the consumption of dairy produce is not very large, as the European population are almost the sole consumers. I estimate the monthly consumption of dairy produce to be 4,800 pounds of condensed milk, 10,000 pounds of butter, and 800 pounds of cheese.

The butter and cheese consumed in my district are imported exclusively from Holland, and milk generally from Switzerland. Trials, however, have been made with American milk (Eagle brand and evaporated cream). The quality fully satisfied the consumers, but prices are too high in comparison with those of Swiss produce to allow a regular importation of American milk. The number of milch cows in my district is very small, and all the fresh milk gained from them is used for the military hospitals and other medical purposes.

This district produces a very large quantity of various tropical fruits, as, pineapples, tack fruit, bananas, mangoes, mangosteens, and a great range of other kinds with Malay names, which are consumed by the natives and foreigners, as well as by the European population. The fruits which are imported here are exclusively from California. I estimate the monthly consumption of American fruits to be 960 tins of 2½ pounds, or 2,400 pounds. As the competition of country-grown fruits is too heavy, the prices for same being very low, I do not see any chance for increasing the consumption of the expensive, though much better, conserved Californian fruit.

C. BOON,
Vice-Consul.

PADANG, *September 5, 1894.*

JAPAN.

KANAGAWA.

The market for dairy products and fruits in Japan is very limited, since the demand for them, except apples, is confined to the foreign residents at the open ports and a few natives of the higher class who have come into direct contact with foreigners. The consumption of butter and cheese is confined almost entirely to the foreign communities. Condensed milk is more generally used, and the leading American brands are very popular, but the lack of international copyright and patent protection has encouraged the manufacture of spurious condensed milk, which is placed on the market packed in cans and with labels which are more or less exact copies of ours. This business is carried on to such an extent as to materially affect the import trade.

Eggs are much used, but, being much cheaper in China than with us, they are almost all imported from that country.

There has been a great demand in Japan for apples and pears, as those grown here have very little taste or flavor, and the demand has, to some extent, been supplied by shipments from our Pacific coast and from Canada; but, recently, the orchards in the northern island of Yesso, stocked with imported trees under Government supervision, producing excellent pears and apples, have begun to bear fruit in sufficient quantities to go far toward supplying the demand; and the quantity will, in all probability, increase as the years pass.

The trade in preserved and prepared fruits and products has been largely controlled by English manufacturers for many years. There is no reason why we should not, at least, share this market.

While it must be remembered that the market for foreign food products in Japan is now and for many years to come will probably be very limited, I would make the following suggestions looking toward the securing of a larger share of this trade. More care should be used in packing those commodities likely to deteriorate on a long ocean voyage; a more consistent effort should be made to keep up a uniform standard of quality, it being claimed by many consumers (sometimes with, and sometimes without, reason) that the products put upon the market by the old and reliable manufacturers of Europe, whose names and reputations in the world constitute a large proportion of the value of their business, are of a uniform quality, while the products of new American manufacturers, as furnished here, though often surpassing these in quality for a time, frequently drop below the standard, though bearing the names and labels of the same manufacturer; an energetic and direct local agency would do much toward introducing and guarantying our products; and, lastly, and above all, our prices must be reduced to allow us to meet, on any competitive basis, the productions of European manufacturers.

I append a table, compiled by Mr. G. C. Scidmore, deputy consul-general, from the Japanese customs report for the year 1893, showing the relative importations from the United States and from other countries of dairy products and fruits.

Imports of dairy products and fruit into Japan during the year 1893.

Articles.	From the United States.		From other countries.		Total.	
	Quantity.	Value	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Pounds.*		*Pounds.*	
Butter	67,483	$13,935	71,961	$15,789	139,444	$29,724
Cheese	28,423	3,650	15,594	2,259	44,017	5,909
Condensed milk	.....	50,629	.....	51,568	.....	102,197
Eggs (nearly all from China)	.....	.....	.....	68,075	.....	68,075
Fruits, fresh	.....	1,293	.....	5,636	.....	6,929

NOTE.—In the Japanese customs returns, preserved fruits and vegetables are reported under the general heading of "all other provisions."

N. W. McIVOR,
Consul-General.

KANAGAWA, *November 20, 1894.*

OSAKA AND HIOGO.

The Japanese have never acquired a taste for butter and cheese; consequently, the consumption of these articles in this consular district is very small, being restricted to the foreign residents, who scarcely number, altogether, one thousand persons. The customs reports for 1893 show the imports of butter to have been less than 20,000 pounds, and of cheese, less than 8,000 pounds. Butter is imported in tin cans, principally from France and Holland, and in tubs from California. As the latter is known to be pure butter, there would be a larger demand for it if packed and cured so as always to retain its sweetness and flavor.

The consumption of condensed milk is constantly increasing among the natives, the returns showing that the imports for 1893 amounted in value to 50,000 yen ($31,600), more than four-fifths of which comes from the United States.

Small shipments of apples reach this market from the Pacific coast ports, the value of which in 1893 was less than 600 yen ($381.60). The greatest hindrance to the extension of this trade is the cost to the consumers, the retail price being from 8 to 10 cents (gold) per pound. For several years past, a very good apple has been grown in the northern part of Japan from American trees introduced and planted by the directors of the Government agricultural farm at Sapporo. The fruit is fine in appearance, but not so good in quality as the same varieties grown in Oregon.

The customs returns fail to give the quantity of dried and preserved fruits imported, but during the past year California dried prunes and apricots have been sold by the principal grocers, and are in much favor, particularly the latter.

In my opinion, a much larger market for Pacific coast fruits would be found if they could be introduced at a more reasonable price than heretofore offered by the dealers in this country. To this end, I would recommend that the growers of all kinds of fruits have their own agent, whose duty should be to study the market in Japan, and to establish subagencies at the different ports. There is very little really good fruit grown in the East, the "Mandarine" orange, as it is popularly called, being regarded as the best. But this is a most insipid fruit compared with the orange now grown on the Pacific coast. The same comparison might be made with almost every kind of fruit grown in this country and China.

E. J. SMITHERS,
Consul.

OSAKA AND HIOGO, *August 31, 1894.*

PERSIA.

The produce of the dairy in Persia is prepared by much simpler processes, and is less nutritious in quality than that which we are accustomed to in western lands. The milk is supplied by the cow, buffalo, sheep, and goat; and as the herbage of the grazing grounds in summer is scant and the forage provided for the animals in the winter not overnutritious, the fatty matter is not present in a very high degree. The Persian dairyman does not usually allow his milk to stand long enough to produce cream, which is seldom in demand, except by a few Europeans; but as soon as the milking is finished, such as is not required for cheese is converted into a rather acid curd, called "most." This process is effected by the application of a small quantity of the same preparation from the previous curding. In order to extract the butter, the curd is broken up and mixed with about double the quantity of water, viz, one quart of curd to two quarts of water. The whole is then put into the churn or whatever serves that purpose. When large quantities have to be handled a sheep or goat's skin, sewn up like a sack, but open at the neck for filling and emptying, is the contrivance used. A cord is then tied to each end of the skin, which is suspended between two posts, and shaken backwards and forwards until the butter is formed. The butter comes after five or six hours' agitation. Other methods are used in proportion to the quantity under manipulation.

After the butter has been extracted from the milk, it is put into a large copper vessel over a fire to boil, in order to expel the superfluous moisture. When this operation is finished the butter is put into goatskins and sent to market under the name of "rogan." It is used entirely for culinary purposes, especially in stews eaten with rice. This particular preparation is,

in India, called "ghee." It is exported to a considerable extent to Java and the Straits Settlements.

The buttermilk, or the mixture of buttermilk and water, after the butter has been extracted, is a favorite beverage with the Persians. It is called "dook," and is drank regularly at both luncheon and dinner. In the summer, with the addition of a piece of ice, it makes a refreshing drink.

Another preparation, obtained from the "most," or sour curd, is called "kashk." This is made by boiling the curd down until it becomes a stiff consistency. It is then exposed to the sun to dry, when it becomes as hard as chalk, which it resembles very much in appearance. It is soluble in water and gives to some culinary preparations an acid, though not an unpleasant, flavor. It is, however, much more appreciated by the natives than by foreigners.

Persian cheese, called in the native tongue "panir," is nothing more than the raw curd. After being taken from the vessel in which the process of curding has been carried on, it is hung up in a cloth for three or four days to drain, and, when taken down, it is in its marketable state. In districts remote from towns, it undergoes a longer process of drying, and for the purpose of transport, is sewn up in goatskins. Most of the cheese and "rogan," or clarified butter, are prepared by the nomad tribes, who are the possessors of large flocks of sheep and goats, which they graze during the summer on the mountain slopes.

A few cows are kept in Teheran for the supply of milk and butter (made from cream) to the Europeans, but these in such small quantities that they need not be taken into account.

European canned butter is imported into Persia, but not to any great extent. It is usually a Swiss or Swedish preparation, and the quality is not always the best, consequently it has not met with much favor. I hardly think a ton of European butter is imported into the country in the course of a year.

Cheese, open and in cans, has a much larger market, and is imported chiefly from Russia and Holland in whole round cheeses, weighing about 3½ pounds, and from England in one-pound tins. Larger cheeses, weighing a hundredweight or more, are also brought from Russia, and, occasionally, from England. The Russian cheese, though on the whole fairly good, is not equal to that from England. I have never seen or heard of any American cheese in Teheran. The consumption of European cheese in Teheran does not average much more than a ton in the course of a year. It is confined almost entirely to the European community. Persians, as a rule, both from gastronomic and economic considerations, prefer their own. Many, too, have a suspicion that the fat of the pig has entered into its composition.

I may mention, in this connection, though rather outside my instructions, that considerable quantities of hams and bacon are imported into Persia, but only for the consumption of Europeans—the pig, according to the Moslem creed, being an unclean animal. I think it is probable that

a proportion of these are of American curing, although generally brought from England.

In variety of species and richness of texture and flavor, the fruits of Persia compare favorably with those of any country in the world. The natives think there are none to equal them. Those found in great abundance are the black and white mulberry, sweet and sour cherries, apricots, greengages, and large, red, and other varieties of plums, peaches, nectarines, damsons, apples, pears, dates, oranges, limes, lemons, citrons, cedrats, pomegranates, figs, a large variety of grapes, quinces, watermelons, *Cucurbita citrullus*, and the muskmelon, *Cucurbita moschata*, and some varieties of the *Cucumis melo*. Strawberries are grown in small quantities, and raspberries can scarcely be said to exist. Gooseberries and black, white, and red currants are not found at all, and pineapples in but one or two greenhouses for private consumption.

Dried fruits consist of walnuts, filberts, pistachios, sweet and bitter almonds, raisins, currants, dates, and figs. Most of the plums, especially the "Magnum Bonum," are dried, and the latter is exported in great quantities to Russia.

The principal fruits exported are dates, figs, currants (dried), raisins, walnuts, filberts, pistachios, sweet and bitter almonds, oranges, lemons, citrons, and cedrats.

Russia is the chief market for fruits exported from Persia, with the exception of dates, which are sent to most countries of the world. Although the Persian dates are not equal to those grown and shipped at Bussorah, on the Tigris, they are sufficiently appreciated to secure a steady demand. Raisins, bitter almonds, and pistachios are also sent as far as England.

Jams and preserved fruits are prepared by the natives to a considerable extent, but only for local consumption. They are generally too sweet and insipid for the foreign taste. Persians have a morbid fondness for sweet things, and to such an extent in jams that the natural flavor is almost undistinguishable. In addition to the various kinds of plums, jams are made of cucumbers, pumpkins, carrots, raddishes, apples, pears, quinces, the outer skin of almonds, and orange, lemon, and citron peel.

The trade in foreign preserves or jams in Teheran is probably somewhat under 2,000 pounds a year. The supply is imported in 2-pound, 1-pound, and half-pound tins, and consists chiefly of strawberries, raspberries, red and black currants, damsons, greengages, apricots, peaches, gooseberries, apples, rhubarb, green ginger, pineapples, and marmalade. It is chiefly brought from England, Russia, and India. I am not aware that preserved fruits or jams reach Persia from the United States, although I think they might and ought to be brought into competition with those of other countries. I may remark, however, in this connection, that American cured salmon and meat are sold in the Teheran stores.

In order to place American fruit products in as favorable a position as those of other countries in Persia, it would be necessary to economize freight

and transport as much as possible. To secure this advantage, they should be shipped directly to Bushire, on the Persian Gulf. At this time of the year, American ships occasionally come to the gulf and Tigris for cargoes of dates, and it would thus be an easy matter to import a year's supply of produce. From now until the middle of May is the most favorable and profitable time for inland transport, inasmuch as the herbage on which the mules and camels feed during the latter part of the spring and the summer, has either been consumed by the animals or the drought; consequently there is no temptation to linger and delay on the road.

American manufactures and products are, on account of the absence of direct shipping facilities with the Persian Gulf, placed at some disadvantage. Notwithstanding this, there are great numbers of natural and artificial articles which might be imported into this country at remunerative prices.*

JOHN TYLER,
Vice-Consul-General, in charge.†

TEHERAN, *September 10, 1894.*

SYRIA.

As to the markets in Syria for butter, cheese, apples, and fruits in general, and the share of the United States therein, I have little to say, but as to the best means for the enlargement of Oriental trade in American products, I would like to impress certain facts upon producers, manufacturers, merchants, and shippers.

There is an immense consumption of dairy produce and fruits of all kinds in this country, but the United States have no share in it. Indeed, it would seem very much like "carrying coals to Newcastle" to send butter and cheese to a land whose flocks feed on a thousand hills and as many mountain sides, and it certainly would be wasting sweetness on the desert air even for California and the sunny south to send fruit to a land where, since the days of Adam, the fruit of its gardens has been an irresistible and constant temptation to mankind.

The United States are little, if any, behind European countries in this respect, for fruit and dairy products are among the chief native articles of produce and consumption. The Damascus apples were long ago imported from Europe, but they are among the very few foreign fruits, and are dear and sold chiefly to foreign residents. Nearly all other fruits known in temperate and tropical zones abound in rare perfection, especially oranges, lemons, bananas, apricots, pears, figs, grapes, plums, peaches, apples, berries, and melons; and it would be impossible for outside shippers to compete in the markets on account of this abundance and the consequent cheapness of the native crops. Indeed, the constant cheapness of fruit puts it in everybody's reach, and it is to be had in some variety or other all the year round.

*For particulars for packing and transport in Persia, see Consular Agent Malcolm's report in CONSULAR REPORTS No. 166 (July, 1894), p. 402.

† If intending importers will communicate with me, I will furnish them with all information.

Native butter, or "semen," churned in calfskins after the ancient style, is a great industry among the Arabs, and this butter is used by nearly all Syrians. It is made from goat's milk, which is abundant, and some of it is quite palatable, although most of it is coarse and decidedly unsavory. Foreigners and many residents of cities obtain here good butter from cow's milk, but imported butter is little used or known.

Some cheese for hotels and the use of foreign and native residents is imported from Holland and other European countries, but this product of the dairy is made in very large quantities, in Syria, where the rich milk of the goats of the mountains and desert is used for the purpose, and it goes to make up one of the principal industries of the people. A coarse and cheap goats'-milk cheese is also imported in considerable quantities from Greece and the Grecian islands, but the high price for transportation would eat up the profits on American butter and cheese under present shipping conditions.

American trade with Syria and the East would pay even with dairy products and some fruits, especially canned fruits, preserves, and jams—for the natives do very little in these industries—if there was an avenue for direct shipment. This is the great need, and the best means for the enlargement of trade in American products is for some enterprising person or patriotic company to send ships direct to Mediterranean ports and the Syrian shores. Syrians want to trade with the United States, and these people prefer American products, machinery, and merchandise.

American lumber, furniture, factory goods, patented machines and utensils, musical instruments, typewriters, etc., would find a market here, and if such articles were shipped free of the frequent handling and of the piled-up charges of reshipment at Liverpool, London, Marseilles, Alexandria, or Port Said, they could be sold at a profit, and the vessels could go home laden with Syrian wool, native silks, shawls, soap, licorice root, bitumen, asphalt, carpets, sweets, and the famous old wares and handiwork of Damascus, Beirut, Haifa, and Aleppo.

A line of ships from America to touch at Gibraltar, Tangier, Tunis, Malta, Alexandria, Port Said, Jaffa, Haifa, Beirut, Smyrna, and, possibly, Constantinople, would not only lead the way in opening up a big trade between the East and the West, but would pay almost, if not absolutely, from the start. Merchants here are afraid to take chances on the present roundabout routes, but they would welcome a direct line to the United States, and the already considerable shipments of wool, licorice root, and Mt. Carmel soap would be doubled at once, and would find large accompanying cargoes from the list of Oriental stuffs referred to above.

Closer acquaintance would result in mutually beneficial interchange of products and commodities, and, in proof of this, it is only necessary to refer American producers, manufacturers, and shippers to any of the observant representative Americans who have visited this fair, fruitful, and heaven-favored land.

THOMAS R. GIBSON,

BEIRUT, *August 2, 1894.* *Consul.*

PHILIPPINE ISLANDS.

There is considerable demand for butter in Manila, but outside of the city there is no market for dairy produce. The natives never eat butter or any other dairy produce, although cape buffaloes are very numerous, and give a fair supply of milk if taken proper care of. Still, the natives let the cattle go dry as soon as the calf is large enough to take care of itself, which is usually the same period as our cows require for the same purpose.

In and about Manila, there are a few small herds of Australian cows, the milk from which is sold in the city. The quality is not nearly so good as that from cows in a colder climate, but we are glad to get it and pay 40 cents (Mexican) per bottle, each bottle holding three-fourths of a quart, English measure. But as the cows soon deteriorate in so hot a climate, there is but small profit in the business, even at the high price of milk. For butter, we pay 50 to 60 cents (Mexican) per tin can, holding somewhat less than a pound. But, as I said before, with the exception of Manila and a few towns, say Iloilo and Cëbu, no butter is sold, and I fear that there will never be much of a market in this country for dairy produce.

As to apples and other fruits, I am quite sure that no trade could be built up, except in the preserved form, for the following reasons, viz: (1) The long voyage in a steamer's hold in the close, hot atmosphere prevailing nine months out of the year, and the transshipping at Hongkong to other steamers for the passage here, which usually takes five days via Amoy, would rot the fruit before arrival; (2) with the exception of a few Europeans who might be willing to pay a fair price, there would be no sale for them if brought in good condition, and I doubt very much if a trade could ever be built up for fruits such as the circular describes.

But I do think that, with proper energy, a large trade in canned fruits might be had here, as every person I have spoken to on the subject admits that our California fruits are the best in the world. Messrs. Warner Blodget & Co., Manila, brought out quite a large consignment, but not being in the retail trade, of course did not meet with much success. I have used some of the fruit, which was in store nearly two years, and it was still in good condition. Except a few cans that had rusted around the edges, all the cans were in good condition. I would suggest a covering of some material to be applied to the tin that would prevent the rapid destruction of the cans.

It is impossible to give figures of what portion of the whole imports of the articles mentioned is shared by the United States.

ISAAC M. ELLIOTT,
Consul.

MANILA, *September 20, 1894.*

SIAM.

There is a great market for the products, not only of California, Oregon, and Washington, but of all the United States, awaiting development in the Orient. I make this statement after most careful investigation and study of conditions among the Asiatic nations, prompted by a desire to see our foreign trade develop and compete openly with that of England and Germany instead of remaining dwarfed and inconsiderable in proportion.

At the outset, it must be frankly stated that only by hard and persistent endeavor can the United States secure a proper portion of the Oriental trade, and if shippers are to be influenced by disappointments at the start and the depressing features of extensive competition they will not gain a firm hold, but if they will enter the field courageously and make vigorous efforts, they will find, in the course of a few years, that they have won and opened up a permanent and profitable market.

I know that there are many who will object to my claims and conclusions; but I am sure of the ground on which I stand, and, moreover, I am a believer in the principle that the United States is just as capable as Great Britain or any country of building up and maintaining a great foreign commerce even against adverse conditions at the first. These views are not based merely on my observations, but on those made during a previous study of conditions and places from Yokohama to Singapore. A report on Bangkok and Siam alone might not justify any remarkable hopes for American exporters, and yet the large city of Bangkok and the rich little realm of Siam have an increasing commerce and are offering every year a greater opportunity for commercial exchange.

It is impossible to obtain exact information regarding the total quantities of butter, cheese, apples, etc., imported into Siam or of the proportion of these products coming from the United States. With the exception of wheat flour, no food products used by the natives are now imported in large quantities from the United States, but the European population of Siam consumes a considerable quantity of the food products of both Europe and the United States. These are principally flour, hams, butter, canned meats, canned milk, wines, liquors, cheese, canned fruits and vegetables, and a large quantity of canned meats and canned fish of all kinds. Of the above, those exported by the United States are flour, hams, canned milk, canned cove oysters, canned lobsters, canned Pacific Coast salmon, and a small quantity of canned vegetables. Flour and canned milk are about the only important food products purchased direct from the American producers or through Hongkong wholesalers. The customs returns for the year 1893 show that wheat flour to the value of $64,078 was imported into Siam in that year. This comes almost entirely from Portland, Ore., and Stockton, Cal. For 1894, the quantity was much increased, but no figures are yet at hand. The prospect of still greater increase for 1895 is good.

The condensed milk from the United States is sold here in competition with that of Switzerland, but it is in greater demand and is given to the dealers on more satisfactory terms than that from Europe.

The hams used are, I am informed by the best authorities, principally from one of our large American houses, but are packed in England and sold as an English product.

It consequently appears that although Siam uses considerable quantities of the food products of the United States, all the purchases (with two exceptions) are made through London dealers, and but a small portion finds its way direct into the Siamese market.

The American food products which, if properly placed on this market, would probably be most in demand are, in addition to flour and condensed milk, hams, and breakfast bacon packed for family use, canned vegetables and fruits of all kinds, evaporated fruits, canned butter put up in cans of one and two pounds, cheese, all kinds of canned meats and fish, oatmeal and cracked wheat. Fresh and well packed apples, if repacked properly in Hongkong, will find their way here and bring high prices; but it is doubtful if it would pay to push their sale here directly, owing to the large losses which would occur from decay, the present lack of cold storage, and the limited market.

California wines can also be sold on this market, at prices acceptable to all concerned, if they can be brought into favor with consumers. There is a very large quantity of wine used by the Europeans in Siam and an increasing consumption among the higher classes of Siamese. The supply now comes principally through French dealers and from Algeria. There is also a small quantity of California claret sold here by French dealers as the European product. California wines equal in excellence those from European houses sold here, and can be put on the market at satisfactory prices. Australia is now pushing her wines. Those most in demand are clarets and dry hocks. There is also a large amount of sherry used.

The United States produces champagne equaling and even surpassing in quality much of that now sold here, and, while American producers of this article would find the same difficulty in introducing it into favor here as elsewhere, if they would ship it to dealers here at a price which would make it an object for them to push it, a considerable market might be opened up. Although this may be deemed problematical, the advisability of this step is worthy of consideration.

There is one thing, however, that Americans wishing to do business in this market must recognize, and the nonrecognition of it has defeated past attempts to build up a direct trade between the United States and Siam and will prove fatal to all such efforts in the future. This is, that American dealers must do business with the Siamese importer on the same basis as the English dealer. A merchant in Siam of good standing can transact business with London exporting houses on the same basis with that of a merchant in another English city. American firms have so far failed to do this or to offer

to do this. "Gilt-edged" firms here are asked for cash with order. If Americans wish to do business in Siam, they must learn who the traders are, what their standing is, and treat them accordingly. For instance, a certain "A 1" firm wished to get samples of California wines. It ordered forty-five cases shipped to the H. and S. B. Company (limited), with instructions to draw, and order the bank to turn over goods upon payment of drafts. The order was sent to a large firm, who seem most desirous of doing business here. The business was done through a sub-consular official who agreed to look after the California firm's interest in the matter. The California firm did not ship the goods, but offered to do so if a certified check were sent it. The Bangkok dealer would have been deprived of the use of this money for some five months before he received the goods. No European dealers ask this.

Another house here has been handling some American canned goods which it purchased from a New York firm. This house has given the New York firm instruction to draw on London agents when the order was received, and has thus paid for the goods some months before receiving the same. This firm has now stopped doing business with the New York firm, and now buys American goods in London.

Buyers here also find great advantages in dealing with English exporters, as firms of good standing get consignments of many classes of goods. It is also of great advantage to merchants in Bangkok to have considerable latitude in time of payments, as this makes it possible for them to send money when exchange is rather favorable.

To sum up the whole matter, it seems that large quantities of food products are consumed in Siam of kinds which are produced in the United States, but it appears that only a small proportion of American products find their way to the Siamese markets; that those which do come pass through the hands of English exporters; that Americans can sell goods at prices which make it possible for the United States to do business in Siam; that the reason that the United States does not do business directly with Siam is because the American dealers do not know enough about merchants in Siam, their financial standing, etc., to deal with them on the terms that they would offer fellow American dealers. Hence, the first step which must be taken by our exporters is to make arrangements whereby the standing of merchants in Siam can be investigated as it is by Englishmen. When Americans can do this, they can deal with Siam and know exactly what they are doing; until then they can only work in the dark.

Of course, the American export trade is, in many instances, handicapped by freight rates, but, notwithstanding this, business in food products can be done with Siam if Bangkok is dealt with on the same terms that England gives her.

Another thing should be remembered by our merchants. They are not the only persons who have products to sell. If they ever do business here they will have to push it. Buyers here will not run after them. In order to

ascertain the standing of merchants in Siam, I would suggest that they apply to American agents of banks here, as English traders learn from the London offices. There are two large banking institutions here and they have offices in San Francisco, Chicago, and New York. With proper packing, competitive rates, good qualities, and the same methods that build up trade at home, American exporters would not labor in vain.

JOHN BARRETT,
Minister and Consul-General.

BANGKOK, *February 15, 1895.*

STRAITS SETTLEMENTS.

Having received the Department circular calling for particulars in regard to the consumption in this district of American fruits, dairy produce, etc., I thought it desirable to first obtain a statement on the subject direct from the Government here, and so addressed myself to the resident colonial secretary, and am now in receipt of that officer's reply, which is as follows:

I am directed to inform you that all goods except petroleum from the Atlantic coast of America come through the United Kingdom, and if actually purchased by the home agents of Singapore firms, are classed as imports from England.

The trade in perishable goods with the United States is confined to wheat flour, fruits, milk, an insignificant trade in jams, and a fairly large, though decreasing, trade in canned meats and fish.

Nearly all the wheat flour imported comes originally from San Francisco, but the bulk of it is purchased for the Straits market at Hongkong. The imports under that head amounted in 1893 to 9,629 tons.

Preserved vegetables (canned) were received to the value of $5,437 from the continent of Eu ope, and of $2,430 from the United Kingdom. Preserved fruits (canned) from San Francisco were received to the value of $4,160, as against $1,880 from Europe.

Oilmen's stores show an import value of $2,000 from San Francisco, mainly in canned salmon.

American meats would come through the United Kingdom, and in most cases would appear as imports from Europe, a value of $875 only appearing under this head as being imported from New York.

The trade in fresh fruit is insignificant, a few cases of apples being occasionally received from San Francisco.

American canned milk ("Eagle" brand) was once very largely used, but it can be hardly said to be in the market now, the Swiss article at a much lower price having superseded it.

The following table shows the consumption of canned milk during the last three years.

Year.	Imports.	Exports.
	Cases.	*Cases.*
1893	17,223	5,527
1892	16,689	5,804
1891	13,274	5,137

The estimated value of the canned milk imported in 1893 was $144,455. The "Eagle" brand milk is shown as from the United Kingdom, but it may be safely estimated that 90 per

cent of the canned milk imported is Anglo-Swiss ("Milkmaid" brand), and the remainder American, English, and certain Swiss brands.

The total value of butter and cheese imported in 1893 reached $80,124, of which France sent $24,446; Italy, $15,005; Holland, $12,602; Australia, $9,986; Germany, $5,650; the United Kingdom, $5,598; and Belgium, $3,342.

With reference to the foregoing, I beg to make the following observations:

Regarding canned or condensed milk, the only apparent reason assignable for the fact that the Swiss brands have supplanted the American ("Eagle") brand in this market is that, per case of 4 dozen, the former can be sold here at $10.30 to $10.50 (Mexican) against $18 for the latter. Otherwise, the milk canned in the United States, admittedly superior to rivals, seems quite as well prepared for resisting this climate, and only requires, I think, to be put down here at as low a price to defy competition.

The same, I consider, holds good as to dried and preserved fruits, of which the value imported into the Straits Settlements from the United States was $6,615 (Mexican) during the last fiscal year.

Of wheat flour, I have already treated at length in my report on the prospects for the extension of American wheat flour* and in my dispatch of April 26, 1894, on California flour imports accredited to Hongkong.

That our canned salmon should not be more in demand in this colony is due probably to the great abundance here of fresh fish, and the small cost at which salt fish, so largely used by the natives, can be obtained from Siam and Cochin, China.

It is my belief that American butter and cheese could be introduced here to advantage and made to take the place of the same products from Europe. To effect this, I would suggest that our exporters forward circulars and price lists, and make sample consignments to local merchants.

E. SPENCER PRATT,
Consul-General.

SINGAPORE, *November 3, 1894.*

SUPPLEMENTARY REPORT.

I have the honor to supplement my report of the 3d instant on the consumption of American dairy produce, fruits, etc., in Singapore with the following information obtained from Messrs. John Little & Co., the largest grocers and provision dealers in this colony:

We import about 150 cases of Helvetia cream per annum, and the sale is increasing every year. It is put up in better style than Swiss milk, but the latter has had command of the market for years and is still largely consumed.

We import about 400 cases of American tinned fruits every year, and they are got up well and are always in demand. Certainly, there is no other kind of tinned fruits to compare with them. As regards the form in which similar products from other countries are placed on

*See CONSULAR REPORTS No. 165 (June, 1894), p. 311.

the market, they can not well be compared, as they are so different in price, but there is nothing to complain of as regards American goods in style and get up.

We can not give you any reason why American cheese and butter are not more largely imported, as we have no knowledge of them, but we fancy they are largely sent to London and from there sent abroad. French and Danish butter has long held the market here, and we do not remember ever having seen here any of this product from America.

It is always a great deal of trouble to get goods from America to this place, as steamers very seldom run direct, and it takes a long time to transship at Liverpool or London.

If American producers hope to extend their brands in this part of the world they ought to send out circulars and price lists largely. We think there are only two firms in America dealing in tinned goods who ever send us their lists.

You will note that the above suggestion regarding the forwarding of circulars and price lists is the same as that made in my report of the 3d instant, except that I further recommended the consignment of sample packages at the same time.

There can be no doubt that the cost and delays of transshipment most seriously affect the introduction here of American products generally, and that, in order to enable these to compete on an equal footing with the same products from Europe, means should be afforded for direct transportation from the United States to this point.

E. SPENCER PRATT,
Consul-General.

SINGAPORE, *November 16, 1894.*

AUSTRALASIA.

NEW SOUTH WALES—NEWCASTLE.

There are no means of obtaining the consumption of dairy produce, fruits, and vegetables in New South Wales, as requested, and the only information of any value to America is contained in the figures relating to the imports given with this report. They furnish the key to the whole situation, showing positively where the United States is weak, and also where it is strong in trading with New South Wales and Queensland. From them, may be gathered something approximating the consumption of imported goods. It is obvious that New South Wales and Queensland are not able to supply their own demand in respect of the articles they are obliged to import, and it follows, as a natural sequence, that in these particular lines, there must be an opening for an increase of imports, in keeping with the growth of the colonies. What is really required to further develop the American trade is the establishment of agencies to push the goods. One special agent, for instance, with his headquarters in Sydney, could easily take charge of dairy produce, condensed milk, eggs, fruits, lard, and vegetables, and he could also superintend the Queensland portion of the same trade. His remuneration would be by commission, and it would be to his interest to push the American trade in every possible way. Being on the spot, he would be familiar with the season's prospects, able to forecast a glut or otherwise in

the different products, and thus be in a position to warn exporters. A good illustration in point occurs at the present time in the matter of onions, which have been very scarce for months past, and have been selling up to $65 per ton. Had a special agent been watching the market for the United States, he could have apprised exporters and so enabled them to catch the most opportune moment and to ship large quantities at a most profitable figure. That special agents are indispensable in developing and fostering a trade like dairy produce, fruits, etc., is shown in the most remarkable degree by the magnitude of the Victorian butter trade with Great Britain—a trade yet in its infancy, but still of prodigious proportions, and all through proper handling. The same applies to the Australian meat trade with Great Britain. If special agents were not on the importing ground watching every aspect of these enterprises, trade would undoubtedly decline. It is within the bounds of probability that a number of duties will be removed within the ensuing twelve months, and, in that case, there would be a still better opening for the American trade with New South Wales.

The American goods are placed upon the market in a highly satisfactory way, and nobody has to complain on that score. In the matter of preserved fruits, some of the British exporters make a feature of putting them up in wide-necked, clear-glass bottles, and these certainly command the attention of the people who are able to pay the highest charges. It is not, however, an extensive trade, but it must be a fairly profitable one, judging by the figures given below.

The American products, generally speaking, stand well in comparison with all others. The article which is somewhat condemned is condensed milk, as it lacks the flavor of the Swiss and Scandanavian makes, does not keep as it should, and is of varying quality.

It is not possible to supply figures of any value up to June of the present year; they can only be given from January to December, 1893, and doubtless the figures of that year will serve all purposes.

Butter.—New South Wales has been importing butter from Victoria for years past. Butter factories are now being established all over the colony, not only to supply her own demands but also to share with Victoria in her vast export trade with Great Britain. It is unlikely that New South Wales will ever import butter from beyond the adjacent colonies. The following figures give the complete import trade from January to December, 1893:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	468,619	$87,251.47
United Kingdom	1,109	150.86
India	2,422	428.25
Germany	392	48.66
Total	472,542	879,879.24

Duty, 2d. (4 cents) per pound.

Cheese.—There might be an opening for cheese, but it would have to be sold at such a low rate that it is difficult to see how the manufacturer could make it pay. The imported cheeses from abroad are nearly all fancy makes, which are perhaps as well known in the United States as here. When the dairy companies and the butter factories are in full swing, the import trade will be considerably diminished.

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	38,994	$6,102.59
United Kingdom	26,906	4,885.96
Straits Settlements	295	58.39
Belgium	3,879	846.77
France	6,011	1,445.35
Germany	16,092	2,618.17
Italy	1,724	262.79
Netherlands	820	170.32
Total	94,721	16,390.34

Eggs.—There can scarcely ever be any special inducement to attempt to do a great trade in eggs. The figures speak for themselves:

Whence imported.	Quantity.	Value.
	Dozen.	
Other Australian colonies	865,290	$135,906.74
Hongkong	12,600	944.10
China	125	19.46
France	425	48.66
United States	510	116.79
Total	878,950	137,035.75

The duty on eggs is 10 per cent ad valorem.

Bottled fruits.—This is a line in which a good business might be built up. The manufacturer, however, must be prepared to compete with the United Kingdom and the colonies:

Whence imported.	Quantity.	Value.
	Doz. bottles.	
Other Australian colonies	243	$695.90
United Kingdom	1,554	3,153.49
Total	1,797	3,849.39

The duty is 2s. (48 cents) per dozen quarts, and 1s. (24 cents) per dozen pints.

Green fruit.—This trade at present consists of bananas and pineapples, as below:

Whence imported.	Quantity.	Value.
	Packages.	
Other Australian colonies	216,166	$161,499.66
Fiji	232,186	104,474.02
New Caledonia	6,353	2,944.23
South Sea Islands	1,342	666.71
Total	456,047	269,584.62

Green fruit is free of duty.

Other green fruit.—In this line, the United States stands second in the list, but conspicuously under the Australian colonies. There is no reason why this should not be developed, especially in good eating apples:

Whence imported.	Quantity.	Value.
	Imp. bush.	
Other Australian colonies	230,111	$431,931.07
United Kingdom	2	9.73
Fiji	14	43.79
Hongkong	33	43.79
France	51	165.46
New Caledonia	209	540.18
South Sea Islands	576	710.50
United States	4,135	11,864.52
Total	235,131	445,309.04

Duty, 1s. (24 cents) per bushel.

Boiled or pulp fruit.—The jam industry is always ready to absorb fruit in this state, but the rates given are very low. The quantity imported, all from the other Australian colonies, was 70,959 pounds. The duty is 1d. (2 cents) per pound.

Dates.—The imports of dates, which are mentioned for information only, were as follows:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	73,680	$3,659.60
United Kingdom	769,069	27,627.12
Ceylon	31,916	910.03
Hongkong	2,980	116.79
Straits Settlements	21,439	306.58
China	220	9.73
Egypt	95,200	3,649.87
Total	994,504	36,279.72

Dates are free of duty.

Dried and candied fruit.—The trade here might be increased twofold with judicious handling. It is evident from the figures that the United

States imports are vastly superior to anything else that is sent here, in the fruit line, from the United States. This line should have every attention:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	792,217	$60,456.52
United Kingdom	4,442,763	239,855.18
Hongkong	4,115	345.52
Egypt	196,216	8,419.04
France	196,561	15,378.14
Germany	16,471	1,640.01
Greece	414,677	15,120.21
Italy	382	53.53
South Sea Islands	546	29.19
Turkey	34,136	1,727.60
United States	176,607	14,356.17
Total	6,274,691	357,381.11

Duty, 2d. (4 cents) per pound.

Fruit nuts (*except cocoanuts*)—The following shows the imports of fruit nuts:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	107,760	$9,937.39
United Kingdom	134,465	17,130.08
Ceylon	1,120	228.72
Fiji	72,032	1,912.53
Hongkong	93,582	4,783.76
China	2,962	68.13
France	6,950	1,367.48
Germany	9,414	1,137.42
Italy	27,284	3,260.55
United States	17,545	1,425.88
Total	473,114	41,301.94

The duty on almonds is 1d. (2 cents) per pound.

Jams and jellies.—The quality of the colonial article is so mediocre that the United States ought to be able to compete with the United Kingdom. The following shows the imports:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	584,939	$47,419.17
United Kingdom	335,102	29,821.91
Total	920,041	77,241.08

Duty, 2d. (4 cents) per pound.

Honey.—The imports from the other Australian colonies amounted to 58,913 pounds, upon which a duty of 1d. per pound was paid. There were no importations from abroad.

Lard.—Here we have the United States leading, and there ought to be room for doubling this line. A reduction in price would doubtless secure the desired result:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	48	$9.73
United Kingdom	904	180.06
United States	5,897	807.83
Total	6,849	997.62

Duty, 2d. (4 cents) per pound.

Hams and bacon.—There is always a demand for prime bacon and hams, and it only requires the maintenance of sterling qualities to lift the American imports to double what they are now:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	172,617	$34,411.02
United Kingdom	253,699	57,045.11
Germany	1,150	330.92
United States	104,296	33,496.11
Total	531,762	125,283.16

Duty, 2d. (4 cents) per pound.

Condensed and preserved milk.—One would imagine, on looking at the subjoined table, that nearly all our condensed and preserved milk is manufactured in Great Britain, which is really only the place of shipment; Switzerland, as a matter of fact, being the principal manufacturer, although that country is only credited directly with a drop in the bucket. The 2,400 pounds from Switzerland must have come by direct shipment. The United States should be able to very largely increase their exports, and would undoubtedly do so if anything approaching the Swiss quality could be sent here. Importers complain of the varying quality of the American brands. The market just now is said to be glutted with Swiss and Scandinavian milk. The imports for 1893 were as follows:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	395,845	$46,105.22
United Kingdom	1,763,254	191,973.69
Belgium	9,600	875.97
Germany	34,800	3,284.88
Italy	309,360	28,211.10
Switzerland	2,400	243.32
United States	80,474	8,973.82
Total	2,595,733	279,668.00

Duty, 1d. (2 cents) per pound.

Onions.—Following are the figures, showing the imports of onions:

Whence imported.	Quantity.	Value.
	Cwts.	
Other Australian colonies	102,140	$123,253.84
Norfolk Island	60	72.99
United States	20	43.79
Total	102,220	123,370.62

Duty, 1s. per cwt. (24 cents per 112 pounds).

Potatoes.—The following figures show the importations of potatoes:

Whence imported.	Quantity.	Value.
	Cwts.	
Other Australian colonies	723,560	$730,101.52
United Kingdom	60	82.73
Total	723,620	730,184.25

Duty, 6d. per cwt. (12 cents per 112 pounds).

Preserves.—These might be very largely increased. The following table shows the importations:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	49,216	$5,669.47
United Kingdom	5,386	467.18
Hongkong	183,741	20,653.42
India	2,400	291.99
China	4,040	267.65
France	446	97.33
Italy	836	77.86
United States	114,551	11,051.82
Total	360,616	38,576.72

Duty, 2d. (4 cents) per pound.

Green vegetables.—There is no trade for these. Following were the imports:

Whence imported.	Quantity.	Value.
	Cwts.	
Other Australian colonies	47,236	$77,893.19
Hongkong	96	180.06
Total	47,332	78,073.25

Duty, 6d. per cwt. (12 cents per 112 pounds).

Preserved vegetables.—There is plenty of scope here, and the United States evidently more than holds its own, judging by the value of the imports for 1893. What is wanted, among other things, is a good line of asparagus at a moderate figure. The French tinned asparagus is supposed

to be much in advance of any other brand, and it consequently brings the highest price. The following show the imports:

Whence imported.	Quantity.	Value.
	Pounds.	
Other Australian colonies	60,399	$6,097.72
United Kingdom	34,614	3,070.76
Hongkong	23,232	1,133.89
Belgium	200	38.93
France	3,554	802.97
Germany	1,308	316.32
United States	12,906	1,367.48
Total	136,213	12,828.07

Duty, 1d. (2 cents) per pound.

Imports at Newcastle.—As regards the question of consumption, it may be just as well to give the figures relating to the imports into Newcastle. It does not follow, however, that these amounts were consumed in the district of Newcastle. The figures are only of value in an approximate sense:

Whence imported.	Quantity.	Value.
Bacon and hams.		
Great Britain ..... pounds	1,404½	$301.72
New Zealand ..... do	31,972	6,399.44
United States ..... do	2,412	481.78
Victoria ..... do	611	165.46
Butter.		
Victoria ..... pounds	1,680	384.45
Cheese.		
Great Britain ..... pounds	917	175.19
New Zealand ..... do	322	29.19
Germany ..... do	439	72.99
Eggs.		
South Australia ..... dozen	1,123	136.26
Queensland ..... do	870	126.52
Green fruits.		
New Zealand ..... packages	2	4.86
Victoria ..... do	1	1.00
Queensland ..... do	83	77.06
Tasmania ..... do	68	107.06
Dried fruits.		
Great Britain ..... pounds	170,788	7,363.01
United States ..... do	359	24.33
Victoria ..... do	64,608	1,615.67
Germany ..... do	6,935	910.03
South Australia ..... do	5,621	233.59
France ..... do	3,029	150.86
Greece ..... do	29,218	2,039.06
Preserved fruits.		
United States ..... pounds	4,800	340.65
Hongkong ..... do	158	4.86

STEWART KEIGHTLEY,
Vice-Commercial Agent.

NEWCASTLE, N. S. W., *September 29, 1894.*

QUEENSLAND.

I append figures showing the quantities of fruit and preserved milk imported into Queensland during 1893; no particulars are yet at hand or available for 1894. There are no means of ascertaining the quantity consumed.

Dairy produce is not imported, excepting cheese and condensed milk, sufficient other products of this kind being raised within the colony, and I believe that, in a short time, cheese will be exported, as the climate and other conditions are very favorable to the production of this article. Its manufacture is now carried on upon a large scale. The following figures show the quantities of various articles imported into Queensland during 1893:

Bottled fruits.—Quantity, 5,700 dozen pints, valued at $5,518.61, of which the United States supplied 600 dozen, valued at $345.52.

Dried fruits.—Description not ascertainable, but presumably apples, principally; quantity, 325,963 pounds; value, $28,172.16, of which the United States supplied 68,488 pounds, of a value of $5,153.63.

Dried currants.—Quantity, 1,576,314 pounds; value, $60,563, of which the United States supplied 2,831 pounds, valued at $136.26.

Dried raisins.—Quantity, 589,759 pounds, valued at $26,804.68, of which the United States supplied 2,575 pounds, valued at $214.12.

Green fruits.—Quantity, 534 packages, valued at $963.56, of which the United States supplied 80 packages, valued at $272.52.

Cheese.—Quantity, 17,348 pounds, valued at $2,200, none of which came from the United States.

Condensed milk.—Quantity, 759,042 pounds, valued at $74,180, of which the United States supplied 8,500 pounds, valued at $871.10.

With regard to the foregoing statistics, no doubt the imports reported as coming from New South Wales, Victoria, and other Australian colonies are largely composed of reexportations of United States fruits received into those colonies, but what the proportions are I have no means of ascertaining.

The forms in which products are placed upon this market are as follows: Canned fruits in sirup are in 2-pound tins; dried currants are in wooden boxes, weighing 140 pounds, more or less; Eleme raisins are in wooden boxes, weighing about 60 pounds; Sultana raisins are in wooden boxes, generally weighing 25 to 30 pounds; muscatel raisins are in wooden boxes, weighing 5, 10, and 20 pounds, are supplied in a fair quantity by the United States, and are well liked. The price is lower than Spanish fruit, but the latter is finer. The American fruit, however, keeps in a better condition and is preferred on that account.

The manner in which the foregoing products are received is satisfactory to consumers, and I can suggest no improvement upon the present forms employed. The price regulates the demand in most instances, and for this reason Mediterranean fruit is generally preferred. Dried currants of good quality have been sold in Queensland this year at 2 cents per pound.

Condensed milk is imported in one-pound tins packed in cases, each containing 4 dozen, but there are only three or four brands for which there is any demand, and these are all Swiss. The quality of the American milk deteriorates if it is kept any length of time, and this remark applies to all other milk other than the three or four brands alluded to.

Other American products as above are in every way satisfactory, except in the item of currants, and these are kept out of this market by the low price of Mediterranean fruit. If American currants were equal in quality and price to Mediterranean, they would be largely availed of and imported as California muscatels are.

An effort is now being made in Victoria to supply this market with raisins, and I have lately seen some very fine specimens of Sultana, Eleme, and muscatel raisins from that colony, but I think some years must elapse before Victoria will figure as a serious competitor with the United States in this regard, for, though the quality is good, the price above other imported raisins is so high as to be almost prohibitive.

STEWART KEIGHTLEY,
Vice-Commercial Agent.

NEWCASTLE, N. S. W., *September 29, 1894.*

NEW SOUTH WALES—SYDNEY.

In response to a circular relating to dairy products, fruits, etc., I respectfully reply that New South Wales is essentially a fruit and dairy country. There are practically no importations of dairy products into this colony, as the exports of butter in 1893 exceeded the imports by 2,689,250 pounds, and the exports of cheese exceeded the imports by 30,000 pounds, the imports of the latter being chiefly in the rare and fancy classes of the product. No butter or cheese have come from the United States during the last few years, and I do not believe a trade in these commodities could be established. The quality of butter and cheese in the colony is very good, and the quantity produced far exceeds the consumption. The exportations are increasing with the greater facilities for cold-storage shipping. I believe the dairy products of this colony compare favorably with those of the United States or any other country.

The same is nearly true as to fruits. The soil and climate here are suitable for the production of oranges, lemons, apricots, plums, prunes, grapes, passion fruit, and many other vinous and citrous fruits. Apples do but fairly well, but Tasmania is especially adapted to apple raising, and the nearness in distance, with the very low rates of transportation, gives that country a great advantage in this market.

Of imports, there were, in 1893, 235,131 bushels of green fruit, 148,136 bushels of which came from Tasmania, chiefly apples, and but 4,135

bushels from the United States. Of dried and candied fruits, there was an importation of 6,274,691 pounds; but 176,607, or less than one bushel out of 35 of the total, came from the United States. Possibly, we could increase this branch of the trade, but I doubt if it could be materially increased, as I am informed, outside of the statistics, that much of these importations are reexported, and that considerable of the balance is of tropical varieties not exported from the United States. Of preserved fruits, and I think this includes "canned fruits," there was imported a total of 136,213 pounds, 12,906 of which came from the United States. The exports of green fruits for 1893 amounted to 619,932 packages. I do not know the size of packages, but as the value was £149,631 or (about $746,955), against a total value of £91,505 ($477,525) of imports, it shows a large excess of exportations over importations. Of dried fruits, there was an export trade of 581,420 pounds, and it is on the increase.

From present indications, I think that New South Wales, so far from furnishing a good market for fruits, will soon be contesting with American producers for a market in our own country. This much I conclude from the books and from a survey of the fruit fields, while an inquiry in the market leads me to believe that, in the better quality of canned fruits, especially pears, apples, and peaches, our trade could be considerably improved. The goods in the market here, of that kind, are often of an inferior quality, and if all that bear American brands are American goods, our people are injuring themselves by discrediting the merits of their wares. Goods for this market must be of the best quality.

It is believed here that the Americans can lead the world in putting up fruits, but there is a feeling that many of our people trifle with their own good name and underrate the good sense of their customers. The world meets here in open competition. We must depend upon merit for out laurels.

GEO. W. BELL,
Consul.

SYDNEY, *September 24, 1894.*

VICTORIA.

Perusal of a previous report from this consulate-general on the dairy industry of the colony of Victoria, dated June 9 last,* will show to the producers of butter and cheese in the United States and elsewhere that they can not hope to extend their markets to this colony.

In addition to the information previously given, it may be mentioned that, during the year 1893, the imports of butter amounted to only 76,716 pounds, valued at $14,575.16 (of which 63,949 pounds were from the colony of New Zealand), while the exports reached 16,609,600 pounds, valued at

*Printed in CONSULAR REPORTS No. 169 (October, 1894), p. 212.

$3,758,266. Of cheese, 69,370 pounds were imported, valued at $12,312.24, as against 492,800 pounds exported, valued at $53,531.50.

The following return, showing the quantity and value of butter and cheese imported into the colony of Victoria during the year 1893, and the names of the countries whence imported, was furnished by the customs department:

Whence imported.	Quantity.	Value.
Butter.	*Pounds.*	
United Kingdom	190	$43.79
New South Wales	4,390	637.51
New Zealand	63,949	12,589.63
Queensland	7,046	1,114.42
South Australia	223	34.06
Tasmania	806	126.52
Italy	112	29.19
Total	76,716	14,575.12
Cheese.		
United Kingdom	9,133	2,374.85
New South Wales	5,465	472.05
New Zealand	39,289	6,355.64
South Australia	1,336	175.19
Tasmania	17	.....
Belgium	480	77.89
France	125	38.93
Germany	13,032	2,720.37
Italy	160	34.06
All other	.....	63.23
Total	69,370	12,312.21

With the advantage of a Government export bonus and importations being virtually prohibited by the high duties levied, the production in the colony of the articles mentioned has, during the past five years, rapidly increased, and the industry being still in its infancy, is capable of attaining enormous dimensions.

As yet, only the London market has been tried, and the success obtained there warrants the supposition that Victoria can compete with equal success in the markets of the Continent. An important factor in the success of the shipments to London is the strict supervision exercised by the Government at the port of shipment, which allows none but the best quality to be exported, thus maintaining a uniform article which is essential to the life of the industry.

What has been said of the dairy industry is applicable with equal force to the fruit industry.

The market in the colony for American fruits, canned and dried, which at one time were extensively imported, is gradually being closed; first owing to the high duties of 6s. ($1.46) per dozen on 2-pound tins of canned, and 3d. (6 cents) per pound on dried fruit, and, secondly, and perhaps more directly, to the fact that the home production is getting larger and larger and

will soon be in a position to become a strong competitor in foreign markets.

The following table shows the quantity and value of the fruit imported into the colony during the year 1893, and the names of the countries whence imported.

Quantity and value of fruit imported into Victoria during 1893.

Whence imported.	Quantity.	Value.
Fruits, bottled (over one quart and up to one gallon).	*Dozen.*	
United Kingdom	19	$145.99
India (Bengal)	1	4.86
Italy	6	19.46
Total	26	170.31
Fruits, bottled (pints and over half pints).		
United Kingdom	373	983.03
New South Wales	2,969	2,316.45
South Australia	143	14.59
Belgium	28	150.86
France	34	141.12
Germany	16	58.39
Hongkong	295	564.51
India (Bengal)	120	92.46
Italy	12	38.93
Straits Settlements	100	145.99
United States (east coast)	4	4.86
Total	4,094	4,511.19
Fruits, dried (not otherwise enumerated).	*Pounds.*	
United Kingdom	192,547	14,587.37
New South Wales	38,881	3,562.27
New Zealand	2,212	160.59
South Australia	28,859	1,698.40
Asia Minor	4,548	360.12
Belgium	7	4.86
Egypt	18,318	1,148.49
France	26,593	1,571.87
Germany	2,036	291.19
Greece	21,618	744.57
Hongkong	67,072	5,090.35
India :		
Bengal	11,200	1,459.95
Madras	112	4.86
Italy	20	24.33
Total	414,023	30,709.24
Fruits, dried (currants).		
United Kingdom	2,867,675	126,636.06
New South Wales	7,938	5[3]3.98
South Australia	12,515	506.11
Tasmania	3,462	160.59
Germany	12,000	379.58
Greece	271,036	7,781.53
Total	3,174,626	136,047.85
Fruits, dried (raisins).		
United Kingdom	938,509	69,517.95
New South Wales	3,558	204.39
South Australia	96,359	4,310.71
Asia Minor	59,143	2,827.43

Quantity and value of fruit imported into Victoria during 1893—Continued.

Whence imported.	Quantity.	Value.
Fruits, dried (raisins)—Continued.	*Pounds.*	
Egypt	2,963	$141.12
France	39,522	1,897.93
Greece	18,149	515.84
Total	1,158,093	79,415.37
Fruits, fresh (not otherwise enumerated).	*Bushels.*	
New South Wales	12,026	14,837.95
New Zealand	10	19.46
Queensland	4	9.73
South Australia	7,313	10,326.·1
Tasmania	18,278	30,123.50
West Australia	3	4.86
Fiji	6	4.86
Hongkong	24	38.93
Italy	515	1,727.60
Total	38,179	57,093.60
Fruits, fresh (oranges and lemons).		
United Kingdom	2,706	6,355.69
New South Wales	289,256	194,035.·5
New Zealand	100	145.99
Queensland	232	291.99
South Australia	161	311.45
Tasmania	1	.....
France	60	121.66
Hongkong	54	72.99
Italy	8,356	15,339.20
Total	300,936	216,724.72
Fruits, fresh (bananas, etc.).		
New South Wales	48,32[illegible]	27,802.31
Queensland	213,310	78,623.17
South Australia	1	4.86
Fiji	5,560	1,343.15
India (Bombay)	3	19.46
Total	267,202	107,792.95

A portion of the imports of dried fruits from New South Wales was, I understand, American, and was for transshipment to other colonies.

The exports from the colony during the same year were as follows:

Articles.	Quantity.	Value.
Bottled and canned.....pounds...	5,534	$506.11
Dried.....do.....	41,107	3,357.88
Raisins.....do.....	3,549	851.63
Fresh.....bushels...	37,890	60,797.18
Pulp.....pounds...	38,225	2,340.78
Total.....	.....	67,853.58

The Government statist gives the quantity of each kind of fruit (except grapes) gathered in orchards and gardens of one acre and over, during the season 1893–94.

Fruit (except grapes) gathered in orchards and gardens of one acre and over.

Description.	Quantity.	Description.	Quantity.
Apples.....cases...	462,834	Raspberries.....cwts...	10,713
Pears.....do.....	103,269	Strawberries.....do.....	3,632
Quinces.....do.....	53,440	Gooseberries.....do.....	9,755
Plums.....do.....	148,249	Blackberries.....do.....	7
Persimmons.....do.....	44	Mulberries.....do.....	1,228
Cherries.....do.....	69,601	Currants (black, red, and white)....do.....	2,196
Peaches.....do.....	50,477	Olives.....do.....	188
Apricots.....do.....	35,672	Melons.....do.....	11,228
Nectarines.....do.....	867	Rhubarb.....do.....	17,250
Oranges.....do.....	8,352	Tomatoes.....do.....	35,676
Lemons.....do.....	4,339	Almonds.....pounds...	23,957
Loquats.....do.....	938	Chestnuts.....do.....	2,232
Medlars.....do.....	112	Filberts.....do.....	2,169
Figs.....do.....	5,518	Walnuts.....do.....	19,795
Passion fruit.....do.....	22		

I am unable to ascertain what quantity of the fruit grown was canned and dried.

The fruit canned in the colony is slightly inferior in quality, but the dried fruits, apples, apricots, raisins, etc., which the colony largely produces, are in every way equal to the American article.

The declining price and improving quality of the home production are the greatest obstacles which importations, already burdened with a heavy duty and freight charges, have to contend with, and I can not, therefore, report that this colony is a favorable market for either American dairy produce or fruits.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *September 28, 1894.*

NEW ZEALAND.

There were practically no importations of butter and cheese into this country during the past year. New Zealand is essentially a producing country in respect of fruit and dairy produce. Dairying has been pushed with considerable vigor during the past few years, and, at the present moment, the butter and cheese industry is assuming considerable proportions—in fact, it is fast becoming one of the principle articles of export and is successfully competing in the London market with the product of other foreign countries.

I can not, therefore, see how it is possible to establish a trade in these articles with this colony.

As regards fresh fruits, the total quantity imported into New Zealand during the past year was 20,080,793 pounds, valued at $478,260. Of this quantity, the United States contributed practically nothing. The bulk of the importations comprised tropical fruits, generally from Australia and the South Pacific islands. It may be mentioned that apples represent a very small pro-

portion of the total quantity, as the colony itself is a large producer of this fruit, and it is only during the months of June, July, August, and September that local values offer any encouragement to importers. During the above months fresh fruits are rather scarce, especially the domestic article.

Many of the varieties of fruit grown in this country will not keep through the winter months. This is especially true of the product of the north of the island in consequence of the heat and dampness of the atmosphere, while the fruits of the middle part of the island, owing to its colder and more bracing air, keep well into the winter.

Speaking generally, the colony grows nearly sufficient for its own use, and in view of the increased attention which is now being directed to the fruit industry, I regret I can not speak hopefully of the prospect of the United States extending its trade in this direction. There is, however, one thing quite observable, and that is that there is no comparison in the matter of flavor between the fruits grown in New Zealand and those of California. The New Zealand apples that I have eaten are generally small, mealy, and tasteless; the same may be said of the peaches, while the pears are small, coarse skinned, blotched, and insipid.

Apples (also stone fruit) are subject to a duty of one cent per pound, and as the highest price reached during the months mentioned rarely if ever exceeds 5 cents per pound—4 cents per pound being more frequently the price—it is quite evident that under the most favorable circumstances, it would be exceedingly difficult to develop a remunerative trade in fresh fruit with this colony. Besides, there are no facilities for shipping fresh fruit across the Pacific, there being no cold storage in the vessels at present plying between this country and San Francisco, nor is there any likelihood of any such accommodation being made available until more modern boats are used.

Canned fruits.—The total quantity of canned fruits imported last year was 8,953 packages, valued at $26,155, of which quantity the United States contributed 6,245 packages, valued at $15,160. This trade is not capable of any considerable expansion, owing to the sparseness of population, which does not exceed 700,000 all told, and also because of the quantity of fresh fruit grown locally throughout the greater portion of the year.

The consumption of canned fruit is confined almost exclusively to pears, apricots, and peaches, the wholesale value of which is about $1.94 to $2.43 per dozen 2½ pound cans. The American canned goods are by far the most popular, as evidenced by the figures I have already quoted, and any natural expansion which takes place must be to the advantage of the American exporter, as he is practically without a rival in the New Zealand market. The American canned fruits used in this country are almost exclusively Californian, and it is gratifying to say that they have no superior, nor even an equal, for flavor, cleanliness, and neatness of preparation.

Dried fruits.—The total importations last year aggregated 3,182,194 pounds, valued at $125,445, of which the imports from the United States

amounted to 75,876 pounds, the value of which was $7,710. The chief varieties representing the latter were dried apples from the eastern coast, and muscatel raisins, prunes, and evaporated apples, apricots, and peaches from California. The consumption of dried apples and evaporated fruits must of necessity be very limited, and little increase can be expected for the present in consequence of high freights and the duty, but whatever trade there is in this particular class of fruit is confined to the United States, or nearly so. This does not, however, apply so much to muscatel raisins and prunes, which, with a little more care and attention, might be made to more successfully compete with Mediterranean and French preparations. It is admitted that the quality of the muscatel raisins imported from California has shown a material improvement of late years, and the "get up" leaves little to be desired. The preparation of the fruit is also satisfactory, but it is alleged the general quality is not yet equal to the better classes imported from the Mediterranean. As regards prunes, they are at present put up by American exporters in boxes of 25 pounds each, but it is claimed the French system of packing in nicely gotten up round tins, containing about 14 pounds, is by far the most popular method. It is alleged by those who presume to understand the difference, that the quality of the French prunes is superior and more uniform than the American product. Whether this claim is correct or otherwise, I am not competent to judge. The consumption is not large, but some alteration in the direction indicated might possibly lead to a material increase in the trade with this country.

Dried fruits are subject to a duty of 4 cents per pound, and the approximate wholesale prices per pound of the varieties mentioned are: Dried apples, 13 cents; muscatel raisins, 16 to 18 cents; prunes, 13 cents; evaporated apples, 16 to 17 cents; evaporated apricots, 17 to 18 cents; evaporated peaches, 19 to 20 cents.

JNO. D. CONNOLLY,
Consul.

AUCKLAND, *October 3, 1894.*

GRASSES AND FORAGE PLANTS OF FOREIGN COUNTRIES.

At the instance of the Secretary of Agriculture, the consular officers were instructed to describe the grasses and forage plants of their districts and the country at large, which appear to be of value and are not known in the United States, and to forward samples of seeds and specimens of plants. The samples and specimens sent have been transmitted to the Department of Agriculture. In the circular of instructions, the consular officers were called upon for full information with regard to each of the seeds and plants, covering botanical and local names; character of soil upon which they are grown; methods of cultivation; uses, whether for pasturage or for hay, for thatch, for fiber, or food for man or beast; statistics with regard to the

value of improved or unimproved grass lands, as shown by the income derived from them.

Following are the reports received in answer to the circular.

ARGENTINE REPUBLIC.

While the Argentine pampas, as far as the Andes, are one vast pasture of succulent grasses, on which millions of horses, horned cattle, and sheep obtain their subsistence, I am not able to learn that there is a single distinct species of native grass which it would be worth while to transfer to the United States. There is nothing here in the forage line which would, in any respect, take the place of our blue grass, red top, clover, or timothy—nothing which even the natives think of sufficient value to be cultivated.

The native perennial pasturage of the pampas consists of two distinct classes of grasses, which, like those of our western plains, subserve their purposes very well in the absence of anything better; but certainly, they are of no higher order of forage than what are found along the head waters of the Arkansas or in northern Texas. One of these species of Argentine grass has received the name of *pasto duro* (hard grass), and the other that of *pasto blando* (soft grass). The first kind, up to the period of its flowering, furnishes excellent nourishment for animals, but, on account of its length, is better for horses and cattle than for sheep. It dies, after flowering, and then the leaves and stalks lose the greater part of their nutritive qualities. However, cattle can still subsist on it in this state for several months, and in an emergency, except in very severe weather, it will carry them through the winter.

The soft grass is composed principally of *gramineæ*, more or less tender and savory, which the natives of this country know under the name of *gramillas;* but it also includes some herbaceous and juicy plants, of which I may mention two species of *trebol*, the ordinary and sweet-scented clover, and a species of *erodium*, called here *alfilerilla*, and the spotted thistle (*cardo asnal*), whose tender leaves are appetizing for both cattle and sheep. Until the formation of the seed, these annual plants are an excellent substitute for the grasses, but the nourishment is not first class. This spotted thistle has a bright green leaf, and grows to the height of 8 or 10 feet in such dense thickets as to be impenetrable, except in the track of the cattle.

But with all these grasses and herbs for the subsistence and pasturage of the herds and flocks of the Argentine Republic, there is no intrinsic commercial value, as fodder or forage, set upon any of them. So little consideration is given to them that, like our own "buffalo" and "bunch" grasses, not one of them is regarded as of sufficient value to be cultivated.

The only forage plant that is cultivated in this country for its crops is what is known as "alfalfa." It is an European forage plant, where it goes under the name of "lucerne" (*Medicago sativa*—Papilionaceæ). For productiveness, there is no forage plant to be compared to it. In all parts of the Argentine

Republic, it is now thoroughly domesticated, and is the great source of the hay supply for the country. It is most admirably suited to the climate, and the fields produce from five to eight cuttings during the season. The number of acres now down in this grass already reaches many millions, and such is the certainty of its croppings, and so great is the demand both at home and abroad for baled alfalfa, that the breadth of land in this forage will soon exceed that of all other agricultural products together. There are no statistics to show the amount of alfalfa produced in the Argentine Republic, but, besides the home consumption, which is very large, the amounts exported during the last three years were: In 1891, 30,004 tons; 1892, 39,209 tons; 1893, 53,523 tons. Of these shipments, about two-thirds were sent to Rio de Janeiro and the rest went to Europe.

The Argentine *estancieros*, whose annual losses in cattle and sheep from want of forage have hitherto sometimes more than eaten up the profits of the product, are beginning to see the importance of making provision for droughts and bad winters; and they are gradually, as occasion offers, putting down larger and larger breadths of their lands in alfalfa paddocks.

This alfalfa, or lucerne, is, I believe, not only quite well known in the United States, but is already cultivated in certain portions, so that no description is necessary; much less is it necessary that I should forward any of the seed.

E. L. BAKER,

BUENOS AYRES, *August 2, 1894.* *Consul.*

PARAGUAY.

The seeds of grasses and forage plants can not be gathered until the autumn, which begins here in March. After having sought diligently to obtain the specimens and information required, I have to report that everything necessary will be furnished free of cost by the kindness of Mr. Daniel Anisitz, professor of botany of the University of Paraguay. Professor Anisitz thinks that everything can be in readiness to send about the month of May, when I will make necessary translations and forward the same.

EBEN M. FLAGG,

ASUNCION, *September 20, 1894.* *Vice-Consul.*

FRANCE.

Saghaline.—The almost disastrous effect of the drought of 1893 upon vetches, clover, and forage generally has called attention to the merits of the *Polygonum saghalinense*, otherwise known as the giant knotweed, or saghaline. This plant is a native of the island of Saghalin, near eastern Siberia, reaching Europe through Japan. Until a comparatively recent period, it was chiefly regarded as an ornamental foliage plant. It was introduced into France some twenty years ago by M. Charles Baltet, a dis-

tinguished horticulturist, who had noticed some fine samples of it at the horticultural exhibition at St. Petersburg, when a member of the jury of awards. Learning that the saghaline was cultivated on a large scale in India as a forage plant, M. Baltet made some very interesting experiments with it. He has kindly sent me a summary of his investigations, which may be of interest to farmers in the United States. This summary is substantially as follows:

The saghaline is a perennial plant of luxurious and rapid growth. Each spring it throws out shoots which in three weeks reach a height of from 6 to 10 feet. The stalks are clothed with large, smooth leaves, measuring 1 foot in length and 8 inches in width. During the summer, the plant bears a white flower, much sought after by bees.

The forage qualities of the saghaline have been practically studied on several farms in the northern departments of France, and have given every satisfaction. Cattle, sheep, and horses relish it either in the green or the dried state, and as a fat-producing food it has been proved superior to other plants, as the chemical analysis given herein would prove. The young leaves, prepared like spinach, sorrel, or chicory, may be used as a vegetable for domestic purposes.

Thriving in any soil and in all climates, the saghaline, once sown or planted, requires no further care. The roots run through the ground in every direction, stretching far and wide, developing each year in extensive proportions.

The plants are obtained from either the roots or the seed; if from the former, they are placed, in the fall, temporarily in flower pots filled with light, sandy soil, and kept in the shade. In the spring, when the roots begin to sprout, they are transplanted in a field previously prepared to receive them. A luxuriant growth rapidly follows. The plants should be several yards apart.

When seed is used, it should be first sown in a nursery, and when the plants have attained a height of about 4 inches, they should be planted out. No manuring is necessary with saghaline, nor any care except the clearing of the ground from weeds during the first year.

When the stalks attain 3 or 4 feet in height, they are mown close to the ground and carried to the cattle. A second cutting can be made in a month afterwards, and a third in the autumn. When the plant is 3 or 4 years old, four cuttings can be regularly made in the year.

The branches and leaves of each plant rapidly cover a square yard of ground, and according to M. Doumet-Adanson, who strongly recommends this new forage, the total weight of green fodder furnished will amount to from 200,000 to 400,000 kilograms per hectare (80 to 150 tons per acre). During the winter, the saghaline is kept without difficulty in silos.

The following is the analysis of the dried stalks and leaves:

	Per cent.
Water	36.4
Organic matter (nitrogenous)	19.05
Fatty matter	4.4
Wood fiber	8.1
Extractive matter	23.08
Mineral matter (salts)	7.4
Phosphoric acid	1.57
Total	100

The proportion of nutritive principles is superior to that of hay, clover, and vetches, which contain only 16 per cent of nitrogenous matter and 3 per cent of fatty matter.

CHARLES W. WHILEY, JR.,
Consul.

ST. ETIENNE, *May 12, 1894.*

GERMANY.

FRANKFORT.

In compliance with the instructions of the Department, I have the honor to transmit a case containing twenty-three specimens of the principal varieties of grasses which grow indigenously or are cultivated in Germany for hay or pasturage, and eighteen packages of seeds representing that number of the same varieties which are most useful and susceptible of cultivation.

In fulfillment of the Department's instructions on this subject, it was found that but few, if any, of the seeds required could be obtained in the market sufficiently pure and authentic to have any value for scientific purposes. It was also found impossible to pack green, succulent forage plants for shipment without danger of entire loss from molding and fermentation, or to preserve such plants by drying without sacrificing entirely the form and color which constitute, to a large degree, the individuality of the plant. The collection of botanical specimens is therefore confined to grasses, which have been gathered specially, in such manner that each individual stalk, with its leaves and roots, is preserved as perfectly as possible.

For the collection of these specimens and their seeds, it has been necessary to continue the search throughout the entire summer, during which each variety has been gathered at the period of its complete development, and its seeds a few weeks later, when the latter had become fully ripe. This has been accomplished through the careful and painstaking efforts of Mr. J. W. Wunderlich, a botanist and seedman of the highest competence and authority in this country, for whose assistance I desire to make this formal acknowledgment.

The botanical specimens transmitted with this report represent the following varieties of grasses, and include all that are of any practical importance in Germany:

(1) *Agrostis stolonifera* (English, "Fiorin grass," otherwise known as creeping windbalm). Produces on damp or peaty meadows a plentiful crop, and is recommended as a principal component in the grass mixture for such localities. It is not adapted to arable lands on account of its knotty, tenacious roots. This grass blossoms in July and its seeds ripen in August and early September. Its best record on one acre of fertile peat soil was 7,742 pounds of hay and 2,722 pounds of green aftergrass.

(2) *Aira cæspitosa* (English, tufted hair grass; German, *Rasenschmiele*). Yields an inferior, coarse, harsh forage. It is useful for woodlands, where it grows mainly in marshy locations, in large tufts or bunches, and furnishes the lime grass which is used in upholstery. The grass blossoms in July, and the seed ripens in September. Its best record per acre is 10,209 pounds green and 3,318 pounds dry.

(3) *Aira flexuosa* (English, wavy hair grass; German, *Gebogene Schmiele*). This grass is worthless for meadows, but is useful for woodland pastures,

where it blossoms in May and June and ripens in July. Its best record per acre is 12,209 pounds green, 3,318 pounds of hay, and 2,722 pounds of green aftergrass.

(4) *Avena flavescens* (English, yellow oat grass; German, *Goldhafer*). Is useful as an admixture with other grasses for either dry or damp meadow land, but is not adapted to cultivation alone. It is most at home in clayey loam soils, where it has produced as high as 8,167 pounds of green grass at the period of blossoming, 2,858 pounds of hay, and 4,083 pounds of green aftergrass. It bossoms in June and ripens in July.

(5) *Avena pubescens* (English, downy oat grass; German, *Weisshaariges Hafergras*). A species of French rye grass, specially adapted to dry soils. It blossoms in May and June, and has therefore the disadvantage of a too rapid development and becomes hard and dry before mowing time for the other grasses with which it may be mixed. It is best adapted to sandy loam soils, where it has produced 15,654 pounds of green grass, 5,870 pounds of hay, and 6,860 pounds of green aftergrass per acre. For early mowing and pasturage this grass has a recognized value.

(6) *Avena elatior* (*avenacum*) (English, French rye grass; German, *Französisches Raygras*). This is an excellent variety for dry and richly manured meadow lands, and is also well adapted for rotation crops. When mixed with the tall fescue grass (*Festuca duriscula*) it produces the largest yield of aftermath obtainable in Germany. It is most suited to clayey loam, and has produced per acre 17,015 pounds of green grass, 6,380 pounds of hay, and 13,612 pounds of green aftergrass. It blossoms in June, and the seed ripens in late June and July.

(7) *Alopecurus pratensis* (English, meadow foxtail; German, *Wiesenfuchsschwanz*). An excellent variety for damp meadows, where it grows luxuriantly and yields excellent forage. It is also used as a mixture for heavy, arable soils. It blossoms in May and June and ripens early in July. Best record, 20,418 pounds per acre green, 6,125 pounds of hay, and 8,167 pounds of aftermath. On gravel or sand, the crop is much smaller, so that it is usually sown only in damp localities.

(8) *Anthoxanthum odoratum* (English, sweet-scented vernal grass; German, *Ruchgras*). This grass is not cultivated alone, on account of its strong, fragrant odor, which perfumes the hay agreeably when mixed with other grasses, but is too strong when grown alone. It is therefore used as an admixture in most kinds of meadows, from the driest to the most marshy, where it blossoms in May and June and ripens about the 1st of July. It is, however, best suited to sandy loam soils, and its best record in a chosen location is 7,827 pounds green, 2,013 pounds dry, and 6,806 pounds of aftergrass.

(9) *Briza media* (English, common quaking grass; German, *Wiesenzittergras*). This is used as an admixture for both dry and damp lands, and yields sweet, excellent pasture and fodder. It is best adapted to loamy soils, and has produced 9,528 pounds per acre of green grass and 3,096 pounds of

hay. It is especially recommended for pasture on dry, thin soils. It blossoms in July and ripens early in August.

(10) *Bromus mollis* (English, soft brome grass; German, *Weiche Trespe*). This variety grows as a dwarfish weed in barren, sandy locations, and on good ordinary meadow lands yields a profuse crop. But it is regarded by most farmers rather as a weed, its principal merit being that it will grow on barren sands which would otherwise remain naked. It blossoms in June and ripens during July. Under the best conditions, on sandy loam, it has yielded as high as 10,890 pounds of green grass per acre.

(11) *Cynosurus cristatus* (English, crested dog's tail; German, *Kammgras*). It is sometimes used as a minor admixture on meadow lands which are not too wet and which have a certain fertility of soil. It blossoms in late June and July, and the seed is ripe in August. Its best situation is on brown, artificially manured loam, where it has yielded 6,125 pounds of green grass, 1,837 pounds of hay, and 3,403 pounds of aftermath.

(12) *Dactylis glomerata* (English, rough cock's foot; German, *Gemeines Knaulgras*). This is an exceedingly valuable variety of grass for seeding meadows and for pasture in open woodlands where the shade is not too dense. It makes a coarse, but good, sweet hay, and thrives better on dry than on damp soils. It blooms in June and July, ripens in August, and its best record, made by Sinclair, was 27,905 pounds of green grass, 11,859 pounds of hay, and 11,910 pounds of aftermath per acre.

(13) *Festuca angustifolia*, otherwise *Festuca ovina* (English, sheep's fescue grass; German, *Schafschwingel*). Is of great value for seeding pastures on dry soils, also for mixing with other grasses for short periods of rotation in crops. It blossoms in June and ripens in July, and although not adapted to hay making, has yielded on light sandy soils 5,455 pounds of green grass and 3,403 pounds of aftermath per acre.

(14) *Festuca duriuscula* (English, high fescue grass; German, *Harter Schwingel*). Is a hard, wiry variety, but a vigorous grower, which, on manured clay lands, produces enormous crops, a single acre having yielded 18,376 pounds of green grass at time of blossoming, and 8,269 pounds of hay, besides 10,029 pounds of aftermath.

(15) *Festuca rubra* (English, red fescue grass; German, *Rother Schwingel*). One of the most valuable grasses known in Germany for dry, sandy meadows and pastures. It blossoms in June and ripens in July. It is most at home on light sand, which has a certain degree of richness. Under most favorable conditions, it has produced as high as 10,209 pounds of green grass, 4,363 pounds of hay, and 3,403 pounds of aftermath per acre.

(16) *Holcus lanatus* (English, woolly soft honey grass; German, *Wolliges Honiggras*). Is a strong, hardy grower, which forces its way into most meadows, and is able, on poorer soils, to overgrow and stifle the better kinds of grass. It is therefore used in sandy and peaty soils where other grasses do not readily flourish. It blossoms in June and July and ripens at the end of July. On clayey loam, which is its best location, it has produced experi-

mentally 19,057 pounds green, 6,193 pounds of hay, and 6,806 pounds of aftergrass per acre.

(17) *Holcus mollis* (English, soft honey grass; German, *Weiches Honiggras*). This is similar, in general character, to the preceding variety, but has a creeping root, taller and less numerous stalks, soft, spongy panicles, and soft, light-green leaves. It grows sparsely in dry woodlands, but never on clay soils. It is a meager, ordinary pasture grass, and is only adapted to dry, light, sandy soils, being used in Germany for railway embankments, where on the poor thin earth, its strong creeping roots form a turf which holds the earth together and prevents it from being washed or blown away.

(18) *Lolium perenne* (English, perennial rye grass; German, *Englisches Raygras*). Is well known as one of the best varieties for lawns and gardens. It is also largely used in mixing for meadows and pastures on dry soils, where it forms a valuable undergrass. It blossoms in July and August and ripens in August and early September. The largest recorded product of one acre is 7,827 pounds of green grass, 3,389 pounds of hay, and 3,403 pounds of aftermath.

(19) *Luzula albida* (English, Italian rye grass; German, *Italienisches Raygras*). This is inferior to the English rye grass in quality, but yields a somewhat larger crop. From its southern origin, it is more delicate, and is, therefore, not recommended or much used in northern climates. It blossoms in June and ripens in July.

(20) *Phleum pratense* (English, timothy grass; German, *Timothygras*). Is so well known in the United States as to need no description here. Specimens of the grass and seeds as grown in Germany are included in the present collection for purposes of comparison.

(21) *Poa nemoralis* (English, meadow grass; German, *Hainrispengras*). Grows in shady woods and thickets and on newly cleared woodland, also in damp open situations. There are several subvarieties of this grass, the most useful of which is the tallest, known locally here as *Hohes Rispengras* (*Poa nemoralis*). It forms a loose turf, and the leaves, which are soft and weak, lie flat on the ground before the plant has reached maturity. It is valuable mainly for cattle pasture in dense orchards or groves where the ground is more or less densely shaded.

(22) *Poa pratensis* (English, Kentucky blue grass; German, *Wiesenrispengras*). Is excellent for dry meadows, but is not adapted for arable lands on account of its strong running roots, which form a turf that is difficult to break up. It blossoms in June and ripens in July and August. It thrives best on clayey soils, which, when improved by a dressing of peat, have produced of this grass 10,209 pounds of green, 4,871 pounds of hay, and 4,033 pounds of fresh aftermath. It is one of the most widely distributed grasses in Germany, being particularly good, either as hay or pasture, for milch cows.

(23) *Poa sudetica* (English, Silesian meadow grass; German, *Schlesisches Rispengras*). A rough, stiff, and nearly worthless variety of meadow grass, which grows only in a few locations and is of small interest to the agricultur-

ist. Its seeds resemble those of the two preceding varieties, and is sometimes dishonestly sold for either of them. It grows very unwillingly in open meadows, and in such situations usually dies out within two or three years.

The collection of seeds transmitted with this report, includes half-pound samples of eighteen of the varieties of grasses which have been above described, viz: *Avena elatior*, *Aira flexuosa*, *Agrostis stolonifera*, *Aira cæspitosa*, *Alopecurus pratensis*, *Anthoxanthum odoratum*, *Cynosurus cristatus*, *Dactylis glomerata*, *Festuca arundinacea*, *Festuca duriscula*, *Festuca ovina tenuifolia*, *Festuca pratensis*, *Festuca rubra*, *Holcus mollis*, *Holcus lanatus*, *Lolium perenne*, *Poa nemoralis*, and *Poa pratensis*. These seeds have been gathered with extreme care, the stalks having been each selected for their perfect development and maturity, and the seeds thrashed out and winnowed by hand so as to secure absolute purity and freedom from admixture. It was found impossible to obtain trustworthy samples of all the varieties of seeds, but those which are omitted are of comparatively small practical value.

For the further information of the Department, there are inclosed as exhibits with this report the two standard volumes of Eduard Schmiedlin, Futter-Gräser (fodder grasses) and Futter und Wiesenkräuter (forage and meadow plants), which are used as text-books in the agricultural schools of Germany.* These concise and cleverly arranged volumes contain admirable colored engravings of every useful variety of grass and forage plant known in this country, and the text explains fully the characteristics of each, the soil and other conditions best adapted to its growth, and in the cases of cultivable species the best methods of planting and cultivation.

The beautifully colored and lifelike engravings give a far more accurate and satisfactory impression of each individual species at its perfect maturity of blossom and growth than can be derived from any dried specimen, however carefully prepared and preserved.

FRANK H. MASON,
Consul-General.

FRANKFORT, *October 12, 1894.*

NUREMBERG.

From the information received, I am led to believe that none of the grasses and forage plants grown in Bavaria are unknown in the United States, excepting, perhaps, the three varieties which are named and described below. The first of these, the *Zottige Wicke* (*Vicia villosa*) is, I understand, already largely grown in Bavaria, and is held in great esteem as a good fodder plant, while the others, *Waldplatterbse* (*Lathyrus silvestris*) and *Knöterich von Saghalin* (*Polygonum saghalinense*), have not as yet gone beyond the experimental stage, but they are believed to be of value for both pasture and hay, and it is presumed that these three plants would be well suited for cultivation in the United States, as they do not require any particular climate and can be raised upon any kind of soil, even of the most sandy character.

*Transmitted to Department of Agriculture.

Zottige Wicke (*Vicia villosa*) is a plant well suited for sandy soil. It can endure the greatest cold in winter, and yields abundantly of green forage. It is sown here, mixed with winter rye, early in September, on well-manured fields. The quantity of seed required per hectare (2.471 acres) is 75 kilograms (165 pounds) *Zottige Wicke* and 75 kilograms winter rye. The plant is cut for green feeding during the first days of May. One hundred kilograms (220.46 pounds) of seed will cost about 24 marks ($5.71) if the crop of the preceding year has been a good one, and can be obtained from the firm of Metz & Co., seed dealers, in Steglitz, near Berlin.

Waldplatterbse (*Lathyrus silvestris*) is cultivated by Mr. Wm. Wagner, in Kirchheim, Würtemberg. Seed and plants can be obtained by addressing the Lathyrus Gesellschaft in Munich. This plant is fed either as green or as dry forage, and contains much albumen. A good crop can not be expected before the third summer. During the first two years, the plant strikes root to a great depth, and is, therefore, well suited to a very deep soil, although the same may be sandy and stony. This plant, however, unfortunately is liable to a fungoid growth (*Peronospora viciæ*) which, when it occurs, materially affects the crop. Seeding and the planting of the sets is done in spring.

Knöterich von Saghalin (*Polygonum saghalinense*) is a new forage plant. It is said to yield, even in very dry seasons, a comparatively good crop. It grows to a height of 6 feet; the leaves average 8 inches in length and 5 inches in width. It is cultivated on a small scale in the Royal Botanical Garden in Munich. The young sets are put out in the spring.

WM. J. BLACK,
Consul.

NUREMBERG, *July 28, 1894.*

STUTTGART.

In the hope of gaining some useful information, I delayed making my report until I could see Baron von Ow, president of the agricultural department of the Würtemberg government, and I could visit the Royal Academy and School for Agriculture, situated at Hohenheim. This school is also an experimental station, where all new seeds are tested. Both Baron von Ow and Professor Strœbel, of the Hohenheim Academy, are of the opinion that all grass and forage plants that they have tested and that they have proved useful, are already known in the United States. Professor Strœbel refers for full accounts of grasses experimented with up to the year 1888 to the following books:

Mischung und Ansaat der Grassämereien, by Lehrke, published in Breslau, 1888, by Korn.
Werner, Handbuch des Futterbaus auf dem Ackerlande, Berlin, 1875.
Von der Goltz, Handbuch der gesammten Landwirtschaft, Vol. II, Part XII.
Stebler & Schrœber, Die besten Futterpflanzen, Zurich.
Blomeyer, Cultur der Landwirtschaftlichen Nutzpflanzen, Leipzig, 1889.

These books give full information not only of experiments made with each kind of seeds as far as the product, but also speak of methods of cultivation, character of soil, etc.

Professor Strœbel speaks very highly of Sorgho "Amber," on account of rapid growth and early ripening; Mohar for warm climates; winter pease planted with rye; Ackererbse *Pisum arvense* (Peluschke); Wiesentrespe *Bromus inermis* for dry ground; Baumkohl for green forage in winter.

In speaking of *Vicia villosa* and serradella, Professor Strœbel, while claiming they are good for light soil, declares himself disappointed in their experiments.

At the present time, Professor Strœbel is experimenting with the following seeds, but is unprepared to give an opinion: *Lathyrus silvestris* (Waldplatterbse), *Vicia dumetorum* (Zaunwicke), *Sulla lespedeza var. striata*, and *Hedysarum coronarium* (Russian esparsette).

Statistics with regard to the value of improved or unimproved grass lands, as shown by the income derived from them, are found most fully in a book entitled Ergebnisse der Erhebungen über die Lage der bauerlichen Landwirtschaft in Würtemberg, Stuttgart, 1886. This book was issued by the Government for the purpose of levying taxes, and is very complete, but makes only the bald statement of values for the Kingdom.

Würtemberg differs from most parts of the German Empire, in that it contains few large estates; again, a large part of the country is in woodland, and of this, the greater part belongs to the State.

I might add that, in the year 1892, there were, in Würtemberg, 289,983 hectares (716,548 acres) in meadow; from this the average crop of hay was 1¾ tons per acre. Also, that there were 114,614 hectares (283,211 acres) in clover and lucerne; of this, the average crop was 1⅞ tons to the acre.

Cattle are seldom turned into the fields or meadows in Würtemberg.

The price of land varies from $150 to $300 per acre. Professor Strœbel informs me that specimens of plants can be had best and cheapest from the Samenprüfungs-Anstalt, in Zurich.

ALFRED C. JOHNSON,
Consul.

STUTTGART, *June 21, 1894.*

GREAT BRITAIN.

NEWCASTLE.

I inclose herewith a catalogue and list of prices of seeds of all the grasses and forage plants cultivated in Great Britain. This has been furnished to me by one of the oldest firms of seed merchants in the north of England.

WM. L. CAMPBELL,
Consul.

NEWCASTLE, *June 6, 1894.*

GRASSES AND FORAGE PLANTS OF GREAT BRITAIN.

From the catalogue and price list referred to, the following list of grasses and forage plants grown in Great Britain is taken:

Clovers.

Red—foreign, finest broad leaved, English, and mixed; cow grass, white, alsike; trefoil, best (hop clover).

Rye grasses.

Italian—imported, home saved, Westmoreland, and perennial, Devonshire evergreen, perennial Ayrshire, Pacey's perennial, annual; cock's foot, imported and English saved.

Natural grasses.

Fiorin grass (*Agrostis stolonifera*).—Perennial, 1 to 1½ feet. Flowers in July. Affords herbage early in spring and late in autumn; adapted for permanent pasture; also, for moist soils and irrigated meadows.

Meadow foxtail (*Alopecurus pratensis*).—Perennial, 2 to 3 feet. Flowers in May. Forms part of all the best pastures. Thrives best in rich, moderately stiff, moist soils, and does well under irrigation; is much liked by all kinds of stock, and makes excellent hay. As it requires two or three years after sowing to arrive at full maturity, it is not suited for alternate husbandry.

Sweet vernal (*Anthoxanthum odoratum*).—Perennial, 1 to 1½ feet. Flowers in May. Valuable on account of its early growth. It emits an agreeable odor when cut for hay.

Yellow oat grass (*Avena flavescens*).—Perennial, 1 to 2 feet. Flowers in July. Good for dry pastures and meadows; is much liked by all kinds of stock, and affords sweet hay. Its produce is not abundant, its habit of growth being very fine.

Crested dog's tail (*Cynosurus cristatus*). —Perennial, 1 to 1½ feet. Flowers in June. It produces an abundance of short root leaves of rather fine foliage, forming a close tuft. It should be included in all mixtures for permanent pasture, and, being of fine growth, it is particularly valuable for all ornamental grounds kept under the scythe.

Cock's foot (*Dactylis glomerata*).—Perennial, 3 feet. Flowers in June and July. Remarkable for the rapidity of its growth after being cut or eaten down by stock. Forms a large proportion of all our best natural pastures. For permanent pasture, alternate husbandry, or for hay, there is no more valuable grass, and it should be sown liberally for these purposes; when pastured it should never be allowed to become coarse, but should be kept closely cropped.

Tall fescue (*Festuca elatior*).—Perennial, 3 to 4 feet. Flowers in July. A robust variety, succeeds admirably in moist soils or in meadows subject to floods It is very productive, and cattle are fond of it.

Hard fescue (*Festuca duriuscula*).—Perennial, 2 feet. Flowers in June and July. From the fineness of its foliage, well adapted for lawns. Will thrive in a great variety of soils, and resists the effects of drought in a remarkable degree. It comes very early, and is one of the best of pasture grasses.

Sheep fescue (*Festuca ovina tenuifolia*).—Perennial, 1 foot. Flowers in June and July. Grows naturally on light, dry soils and on elevated mountain pastures. Should be included in all permanent mixtures, especially in land intended for sheep pasture, as they are very fond of it.

Meadow fescue (*Festuca pratensis*).—Perennial, 2 to 3 feet. Flowers in June. Thrives in all soils. Excellent for permanent pasture; it is well liked by all kinds of stock both in its green and dry state; most productive and nutritious.

Timothy or cat's tail (*Phleum pratense*).—Perennial, 1½ to 2 feet. Flowers in July. A hardy, productive, and nutritious grass; forms a portion of all good pastures. It is much relished by all kinds of stock, whether in a green state or made into hay. Succeeds well in every description of soil.

Wood meadow grass (*Poa nemoralis*).—Perennial, 1½ to 2 feet. Flowers in June and July. Grows naturally in woods and shady places; of very early growth. Valuable for lawns and ornamental grounds shaded with trees.

*Smooth-stalked meadow grass** (*Poa pratensis*).—Perennial, with creeping root, 2 feet. Flowers in May and June. It grows naturally on dry, rocky situations, and produces an early herbage.

Rough-stalked meadow grass (*Poa trivialis*).—Perennial, 2 to 3 feet. Flowers in June and July. Valuable in irrigated meadows and in meadows shaded with trees.

Miscellaneous forage plants.

Broom for coverts.

Buckwheat—Very good for sowing near preserves; pheasants are remarkably fond of it. It is also good for poultry.

Furze, gorse, or whin—Well adapted for forming cover or hedges, and for fodder in a young stage; frequently sown on sheep walks, sheep thrive on it during severe and snowy weather.

Linseed or flax—Useful for hedges, covers, etc. Cut green for feeding milch cows it will be found to improve the quality of the milk and increase its quantity.

Lucerne—Suitable for light, sandy soils. It is a fortnight earlier than rye grass, and, when established, may be cut four or five times during the season.

Parsley (plain leaved or field)—Cattle, sheep, and horses are very fond of it. May be sown in mixture of grass seeds for permanent pasture where sheep are grazed as a preventive of red water or liver rot, to which they are subject.

Rib grass, or plantain—This grows naturally on dry pastures, and produces its foliage early in spring.

Rape (broad leaf or dwarf essex)—Sown from June to August it will give good sheep feed, or a green crop for plowing in.

Turnips and parsnips.

Sainfoin—This useful forage plant grows naturally on light, chalky soils.

Mustard—Useful for sheep feed; also for plowing in as manure, especially for wheat crop.

Prickly comfrey.

Tares or vetches—Large broad-leaved goa; early summer.

GLASGOW.

As I can not tell what grasses and forage plants are not known in the United States, I have thought best to give below the names (local and botanical) of all such plants grown and of value in Scotland, with a description of each and its uses:

GRASSES.

(1) *Rough cock's foot* (*Dactylis glomerata, L.*).—The same as our orchard grass. The best seed is obtained from the United States and New Zealand.

(2) *Crested dog's tail* (*Cynosurus cristatus, L.*).—Flowers in June or July. Used for high-lying pastures to form bottom grass for permanent meadows, lawns, and ornamental grounds. It is not a hay grass. It is aggressive in character, and has a tendency to spread by self-sowing. It is never sown alone

* Kentucky blue grass.

except for forming lawns, bowling greens and cricket grounds. The yield is not large, but of a very nutritious quality. Sown in a moderate quantity, with other grasses, it is a very useful grass, especially on hilly pastures.

(3) *Hard fescue* (*Festuca ovina duriuscula, L.*).—Grown extensively in Germany; of recent use in Scotland. Its particular merit is its capability to thrive on dry, sandy ground. The yield is moderate and is somewhat rough and hard; flowers in May or June. Its proper sphere of use is as an ingredient for permanent or three to four years' pasture. Sheep eat it readily and thrive upon it. From 3 to 5 pounds per acre of the seed should be sown with blue grass, timothy, or clover. It should not be sown on good soil where meadow fescue will thrive.

(4) *Meadow fescue* (*Festuca pratensis*).—Has been cultivated here about seventy years and ranks as one of the best hay grasses. It also makes good pasturage. It thrives best on a strong, moist soil; flowers in June or July, and grows from 2 to 3 feet high.

(5) *Sheep's fescue* (*Festuca ovina vulgaris genuina*).—A diminutive form of hard fescue. Good for pasture on poor lands. Mixed with crested dog's tail, it makes an excellent lawn.

(6) *Meadow foxtail* (*Alopecurus pratensis, L.*).—Grows 2 to 3 feet high. It is perennial, and blossoms in May. A very sweet and nutritious grass, hardy and early. It requires two or three seasons for full development. It serves best for permanent or three years' or more pasturage. It needs rich, moist soil for cultivation. The seed is expensive, and the best seed comes from Russia.

(7) *Fiorin, or marsh bent grass* (*Agrostis alba; var. stolonifera*).—Used here on boggy moorlands, peat soil, and wet meadows. It is not desirable for the United States, in my opinion, because of the tenacity of its roots (like our quack grass). It is almost impossible to eradicate it from the soil by plowing or other means.

(8) *Rough-stalked meadow grass* (*Poa trivialis, L.*).—Two to 4 feet high; perennial, and flowers in June and July. Much resembles smooth-stalked meadow grass. It is the most valuable of the *Poas*. It needs a richer and moister soil than *Poa pratensis*. For irrigated meadows it is one of the best grasses known. The best seed comes from Denmark, and is expensive.

(9) *Blue grass, smooth-stalked meadow grass* (*Poa pratensis, L.*). Its cultivation here is quite extensive but not of long standing. It is used as a mixture in permanent pastures in dry, loose soils. I think it is common in the United States.

(10) *Wood meadow grass* (*Poa nemoralis, L.*).—Twenty to 25 inches in height, perennial, and flowers in July. Of greater interest to foresters than to farmers. It is a slender, graceful grass, and grows naturally in woods and shady places where the soil is moist; grows well under trees.

(11) *Tall oat grass* (*Avena elatior, L.*).—Three to 4 feet high, subperennial, flowers in June or July; has a tendency to disappear in three or four years. The fodder produced by it is rank and coarse, and, by itself,

would be a rough food. It is never sown alone, but is used for a top grass in mixed sowing. It suits almost any soil but wet ground. True seed is hard to be obtained. It comes from the Continent, and it is often mixed with the seed of other oat grasses, notably that of the bulbous oat grass, which is entirely worthless and objectionable from a farmer's point of view.

(12) *Yellow oat grass* (*Avena flavescens, L.*).—Grows about 2 feet high; will reach 3 feet where soil and climate are favorable. It grows naturally in all good English pastures. It has not as yet been much cultivated on account of the high price of the seed. It is not suited to stiff, clayey land or to wet ground, but it thrives well on all medium soils. Sown along with other grasses, it produces a considerable quantity of nutritious fodder which is greedily eaten by sheep and cattle. The seed should be procured of reputable dealers, under a guaranty of purity, as its high price tempts many collectors to adulterate it with the seed of other grasses.

(13) *Italian rye grass or bearded rye grass* (*Lolium italicum, Br.*).—This grass was introduced into Great Britain about fifty years ago. For cutting green, it is the best grass that can be sown here. Its yield is early, large, and of good quality. It is also used with perennial rye grass to form temporary pastures of from one year to three years' duration. For green cutting, it may be sown alone or mixed with red clover. It will, however, soon run out the clover. The best seed is obtained from France, and that is very foul with various weeds, especially ox-eyed daisies.

(14) *Perennial rye grass* (*Lolium perenne, L.*).—The cultivation of this grass originated in England more than two hundred years ago, and it is now the most extensively sown of all the grasses. Its principal merit is its adaptation to almost any soil, though it prefers such as are moist and tenacious. Its drawbacks are its tendency to disappear in some soils after the second year, and its shallow rooting system, which greatly exhausts the surface of the soil.

(15) *Sweet vernal grass, or sweet scented spring grass* (*Anthoxanthum odoratum, L.*).—A small, early grass which thrives on any soil, even on those which are driest and thinnest. It has no great agricultural importance.

(16) *Timothy, or meadow cat's tail* (*Phleum pratense, L.*).—Grown very extensively. Introduced into Great Britain from the United States. The best seed comes from Saxony and the United States.

FORAGE PLANTS.

(1) *Alsike, or Swedish clover* (*Trifolium hybridum, L.*).—Brought into Great Britain from Sweden in 1834, and has been a great boon to the farmers. In yield and nutritious properties, it is nearly equal to red clover, but is not as well relished by cattle, because of its bitterness. It withstands cold well and succeeds on all soils. It thrives best on moist clay land. The best seed is the English and Canadian.

(2) *Red clover* (*Trifolium pratense, L.*).—As in the United States, this is the best forage plant in cultivation in Great Britain. No more need be

said, as its characteristics and virtues are well known to American farmers. English-grown seed is preferred here. American and French seed is said to be weak, producing diminutive plants.

(3) *White clover* (*Trifolium repens, L.*).—Same as the white clover of the United States. Used here principally in pastures. It grows here more rank and coarse than in the United States.

(4) *Yellow clover or trefoil* (*Medicago lupulina, L.*).—This plant has been in common cultivation in Great Britain for a long time. The uses to which it is put are the same as white clover. The flower heads are spherical, the flowers very small, and the stems procumbent, from 1 to 2 feet in length. The tap-root descends from 8 to 16 inches into the soil. The flowering is annual or biennial, from June to September. Its growth being spreading, its presence in a hay crop is not desirable. It is a useful plant in sheep pastures. It has a nutritious herbage of a fair yield and is earlier than other clovers. It is said to give a fine flavor and color to butter. Its greatest merit is that it grows well on poor soils where the larger and finer clovers will not thrive. It is always sown in a mixture with other plants.

(5) *Kidney vetch* (*Anthyllis vulneraria, L.*).—A perennial plant, flowering in July, and valuable for pasture. It has not been in cultivation long. It is very nutritious, and sheep and cattle relish it; it is said that horses dislike it. It is hardy, growing on soils where clovers fail, and it is of great benefit to farmers here who have warm, sandy soil. It might be of use upon the pine barrens of Michigan and Wisconsin. It is always sown here in a mixture with other plants.

Bird's-foot trefoil (*Lotus corniculatus, L.*).—This plant grows naturally in Scotland from mountain heights to the sea shore. All along the coast on sandy stretches of soil its pretty red-streaked yellow flower is to be seen. It is a valuable pasture plant for bottom herbage on soils where red clover will not grow. It is not much cultivated, the high price of its seed being against its liberal use.

I can get specimens of all these plants, or of as many as may be desired, free of expense from Alexander Cross & Sons, seed dealers, Glasgow, and I can procure the seed of the following, at the price, per 100 pounds, set opposite the names of each plant, as follows:

Description.	Price.	
	Shillings.	
Crested dog's tail	200 to 250	$48.66 to $60.82
Sheep's fescue	45 to 55	10.94 to 13.38
Hard fescue	45 to 55	10.94 to 13.38
Meadow fescue	60 to 70	14.59 to 17.02
Wood meadow grass	130 to 140	31.62 to 34.06
Perennial rye grass	18 to 22	4.38 to 5.34
Yellow clover	50 to 55	12.16 to 13.38

The seed of yellow oat grass, kidney vetch, and bird's-eye trefoil are not kept in stock, and prices can not be obtained with any certainty.

I have to acknowledge the courtesy of Alexander Cross & Sons, of Glasgow, and John Milne & Sons, seedsmen, at Montrose, for valuable aid in the preparation of this report.

ALLEN B. MORSE,

GLASGOW, *June 23, 1894.* *Consul.*

SWITZERLAND.

There are some varieties of American-grown seeds on sale in Switzerland. Some kinds are used quite extensively, and the United States is the sole source of supply, while others come in competition with seeds grown in Europe and have but a slight show except in years like the last, when, owing to the drought prevailing in western Europe, all crops, including seeds, were an almost total failure, and American seeds were imported extensively. No American seeds, however, are imported directly into Switzerland. German, English, and French houses supply the demand. American seeds thus reach the Swiss farmers and market gardners through third and fourth hands, making prices range too high, and, consequently, limiting the sales.

In ordinary seasons, the seed houses supplying Swiss dealers will naturally push their own home-grown seeds, and there being no direct communication with American seed houses, there is but a poor show for the American product, as far as this country is concerned. It would, therefore, be advisable for our American seed houses to send their wholesale catalogues to and correspond with Swiss dealers, and I am convinced that business would result.

Among the seeds of American growth, and sown extensively in Switzerland, are the following: *Agrostis stolonifera*, or fiorin grass; *Agrostis vulgaris*, or red top grass; *Dactylis glomerata*, or orchard grass or cock's foot; *Festuca pratensis*, or meadow fescue or English blue grass; *Phleum pratense*, or timothy or herd's grass; *Poa pratensis*, or Kentucky blue grass; *Trifolium pratense*, or small red clover; *Trifolium hybridum*, or alsike or Swedish clover; *Trifolium repens*, or white clover; and *Medicago sativa*, or alfalfa or lucerne.

In conversation with Mr. E. Müller, of 16 Storchengasse, Zurich, the only wholesale seed dealer in this city, I learned that there was a chance for direct business. Mr. Müller wants samples and prices on all of the above enumerated seeds, and says if American seed houses will correspond with him, and seed, as well as prices, are satisfactory, he will order 100 centners (220.46 pounds) each of the first six varieties and alfalfa seed, and 50 centners (110.23 pounds) each of the others. Mr. Müller is but one of many wholesale seed dealers in Switzerland, and if our seedsmen feel interested, I shall try and secure the names of the most prominent ones and forward such to those desiring a list. Agricultural seeds are admitted free of duty into Switzerland, and as to the mode of payment, Mr. Müller says satisfactory arrangement can be made.

EUGENE GERMAIN,

ZURICH, *August 16, 1894.* *Consul.*

NORWAY.

I regret that I have not until now been able to send my answer to the Department's circular, partly on account of absence from my post and partly because Professor Landmark, of the Government High Agricultural School, at Aas, who kindly undertook to assist me in this matter, did not send me his paper on the subject until very recently.

The forage plants which are cultivated in Norway are raised either in the open arable lands, or in the so-called artificial grass fields after grain crops, or they are grown in the natural meadows.

As forage plants in open arable land, oats, mixed with vetches in proportion of two to one or three to one, are almost exclusively used. To these, gray pease are sometimes added, or they replace the vetches altogether. As a mixture of oats the "banner oats" (*Avena orientalis*) are now generally employed on account of their straw being stiffer, and, in consequence, can not easily fall over. The oats and vetches, which are well manured with manure of domestic animals, take the place of fallow in the succession of crops. In order to get oats and vetches fresh and new at different times during the summer and autumn they are sown at intervals from the beginning of May till the end of June. It is only in the level districts of the country, where the fields are larger, that these cultivated plants are raised. In the mountain and fjord districts, they are very seldom raised. A green crop of 30 tons per hectare (2.471 acres) is not an unusual thing. Some trials of raising autumn rye as green fodder in the spring have been made, but it has not come into general use.

In the grass fields, succeeding crops of grain, timothy (*Phleum pratense*) mixed with red clover (*Trifolium pratense*) are generally raised. To the latter are sometimes added some alsike clover (*Trifolium hybridum*) or "Toten-clover" (*Trifolium pratense perenne*), a peculiar variety of red clover acclimated in this country. Sometimes, but seldom, a trifle of white clover (*Trifolium repens*), of *Lotus corniculatus*, or of *Lathyrus pratensis*, is also added to the former. Other species of grass and other pod plants, as, for instance, English rye grass (*Lolium perenne*) and lucerne (*Medicago sativa*) have also been tried, but they have not found favor with the farmers, having proved unsuitable to the climate of the country and yielding poor crops.

Among the grass plants, the timothy (*Phleum pratense*), which originally came from North America, is the most important cultivated in Norway. It is raised in all kinds of soil, except on very wet grounds, and yields sure crops. Where the fields have been well manured, it yields two crops in the coast districts, together about 3 to 6 tons of dry hay per hectare (2.471 acres). In the rainy fjord districts, it is used generally without being mixed with clover, but, on the whole, but few farmers are raising artificial grass seeds in those districts. In suitable soil, the timothy keeps for four to six

years. It is, however, usually plowed over again after a lapse of three or four years. For cultivation for seed, but only for use in this country, a good deal of timothy is profitably raised here.

Red clover (*Trifolium pratense*) is sown mixed with timothy in the proportion of one to four. Hardly ever is it sown alone in this country. It is sown in the spring between the growing plants of rye sown the previous fall, or it is sown in fields where barley, oats, and vetches have been previously covered. The grass seed is covered only by rolling. Most of the red clover seed used here is imported from Germany. The American and South European are not so hardy, which has been proved by repeated trials. The best, or rather the hardiest, seed is produced in this country and in Sweden. The yield of the red clover is about equal to that of timothy. When mixed, the yield is also about the same. The red clover generally raised dies after two years' cultivation, and often after only one year. It is, therefore, necessary in this country, where the grass fields are plowed over again only after three years, that the clover be mixed with more durable plants.

"Toten" clover—Norwegian red clover (*Trifolium pratense perenne*)—is one of the more durable and hardy species produced by acclimatization in this country. It lasts usually for three years, and sometimes even longer if the soil is suitable and rich in lime. It blooms later than the usual red clover, yields no aftermath, has long, hairy stems and fewer leaves, but grows very high. Its only superiority is its hardiness and durability. It requires quite the same soil as the red clover. If used in the mixture instead of red clover, the yield of grass is often a little smaller. It is, therefore, advisable to mix it with other species of clover. If the red clover dies too early, the "Toten" clover will partly replace it.

The "alsike" clover—(*Trifolium hybridum*) bastard clover—has, since 1850, spread to all the districts of eastern Norway, and has now come into general use for mixture of grass seeds for fields which are to be sown over again. As the seed is finer than the red clover seed, only one-half or three-fourths of the quantity of the alsike clover seed is put into the mixture of 20 kilograms (44.092 pounds) of timothy seed, 5 kilograms (11.02 pounds) of red clover seed, 5 kilograms of "Toten" clover, and 5 kilograms of alsike clover, altogether 35 kilograms (77.16 pounds) of seed, which are considered a good and sufficient mixture for one hectare (2.471 acres). The alsike clover grows very well in almost any soil, lasts three or four years, and sometimes even longer before dying completely. It blooms somewhat later than the red clover (the usual one), but before the "Toten" clover; it yields finer stalks and hay for the animals, which makes the hay more tasteful to them. For the bees, it is the most important honey plant in this country. The yield may come up to that of the red clover, though it never gives any aftermath. Five to 8 tons are often produced on one hectare (2.471 acres). It grows well in the mixture. White clover (*Trifolium repens*) is but seldom sown in the mixture above mentioned. Often, however, after one or two years, some plants appear in the grass fields, which, in this way, become more suitable as pastures.

"Woman's tooth" (*Lotus corniculatus*), "Engflatbelg" (*Lathyrus pratensis*), "Mouse vetches" (*Vicia Cracca*), and "Rundbelg" (*Anthyllis vulneraria*) have seldom been tried in the mixture of grass seeds above quoted, though they would, in many cases, have proved profitable.

The natural meadows have never been fully opened for the production of grain, and are no longer used for such purpose. They contain forage plants which have sown themselves. Among the many good pod and grass plants, which grow wild on them, some have been cultivated on artificial grass fields, which are destined to remain as such for many years. Among these plants may be mentioned:

Meadow foxtail (*Alopecurus pratensis*) grows on wet meadows, which are too wet for producing clover and timothy. It is a common wild plant in this country. It gives a very early yield of grass in wet locations, and is, therefore, sometimes cultivated for that purpose, but it is much subject to rust, and must then be cut early. It yields a poor fodder spoilt by rust, and is, consequently, in no great favor. It is best for pastures.

High oats (*Avena elatior*), dog grass (*Dactylis glomerata*), field meadow grass (*Poa pratensis*), common meadow grass (*Poa nemoralis*), and meadow fescue grass (*Festuca pratensis*), are considered by everybody as good species of grass, and have been tried, together with pod grasses and other less valued grasses, on new grass fields. A series of experiments with these grass plants is now going on in this country, under the direction of an expert, with the purpose of making permanently good meadows by seed of these plants. The results already obtained seem to prove that none of these grasses are fit to replace the timothy, nor do the permanent meadows produced in this way give so good and large a yield as the clover and timothy fields.

A grass plant which has lately attracted some attention is the "giant sweet" grass (*Glyceria maxima*). It multiplies easily by division of the roots and grows very high in a thoroughly humid soil, where other grass plants are stunting. Though this grass is not of a very good kind, still it is eaten by the cattle, and is decidedly to be preferred to the sedges, which usually grow in the swampy localities. This grass has, however, not spread very much.

Of the pod plants growing in the natural fields, *Lotus corniculatus*, *Lathyrus pratensis*, and *sylvestris*, *Vicia Cracca*, *sylvatica* and *sepium*, *Anthyllis vulneraria*, and *Trifolium medium*, *repens* and *pratense* occupy the principal places as good elements of meadow vegetation. Some of them have been mixed with the grasses above named in order to produce good and rich permanent fields, but with the result above mentioned.

Lathyrus sylvestris and *Lathyrus heterophyllos* have lately been recommended as very productive and good cultivated plants. The future will probably show, if it may not already be said of them, as of the other wild-growing pod plants, that, with exception of the red clover, they are unable to replace the known and usual forage plants in the artificial meadows.

Most of the cultivated plants mentioned, perhaps with the exception of a few of them, are likely to be found and are known in North America. I have therefore not deemed it necessary to enter into detail of the description and method of cultivation of the different species.

In the mountain and fjord districts of Norway, forage plants are, as already said, but seldom cultivated in new fields. Almost all the hay used as winter fodder in these districts is raised in the natural meadows, whose plants may vary much and sometimes consist of many species of grass and pod plants. In these localities, but little or nothing is done to promote the growth of these plants by sowing seed among them. The plants, which grow in the meadows, have sown themselves. They have been improved partly by a top dressing of animal manure and of water with liquid manure. The yearly yield of these meadows, of course, varies greatly—from a half ton to five tons and even more—per hectare (2.471 acres) of dried hay in one or two mowings. It could often be made still larger, if it were not for the destructive grazing in the autumn and the spring.

On account of the fields being hilly, uneven, rough, and often far away from the farmhouses, the expense of reaping this forage will frequently be large. They doubtless oftener amount to more than 10 kroner ($2.68) per ton than below that price. The less they yield per hectare, the greater the expense per ton. In some cases the expenses may rise to 50 kroner ($13.40) per ton, when all expenses for mowing, drying, and cartage is counted. The prices of these natural meadows differ in consequence very much according to their quality and location. One hundred kroner ($26.80) for a hectare (2.471 acres) are not the lowest price for poor meadows, and 2,000 kroner ($536) not the highest obtainable for rich and well-manured fields close to the farm houses.

In the level districts of southern and eastern Norway, few natural meadows are to be found. The fields are here usually sown over again with the mixture of grass seed above mentioned in order to become perennial meadows. The fields are manured immediately before being sown, and yield, therefore, more than the natural fields—1½ to 5 tons of dried hay per hectare (2.471 acres) are the result of one or two mowings. At most places, the grass is only mowed once and the aftermath is used for pasture of the cattle in the course of the autumn or as green fodder for the stables.

The shortest time in which grass fields are kept without being turned over again is three years, but from four to five years, and even eight years, often pass before they are plowed to raise grain or roots again for a period of three or four years, and then again, a return of grass crops for several years. On account of these fields being well cultivated, the work becomes cheaper than in harvesting the natural fields, and at most of the farms in the level districts mowing machines and horse rakes are now in general use.

According to an account made out some years ago at the Agricultural High School of Aas, the aggregate yearly expenses of labor and seeds relating to the artificial meadows amounted, on an average, to (the accounts

rendered for six years): For meadows of first year, 30 kroner per hectare ($8.04 per 2,471 acres); for meadows of second year, 24.90 kroner per hectare ($6.57); for meadows of third year, 18.90 kroner ($5.06½). If the first-year meadows also yield grass seed, the expense will amount to 36.60 kroner per hectare, thrashing and fanning of the seed included. The average net profit of the meadows was, for the years (1876 to 1881): Gross of first year, 28.60 kroner ($7.66); second year, 100.10 kroner ($26.83); third year, 53.30 kroner ($14.28), and by grass seed crop second year, 106.40 kroner ($28.52), all per hectare (2,471 acres). The reason why the grass of the first year, according to the above account, gave less net profit than anticipated was partly the expenses of picking stones in the fields and partly because the grass plants died in some of these years, chiefly in consequence of the crops having fallen over. Meadows of the first year may generally be estimated to yield as much net profit as those of the third year, and, as a rule, even more, but not so much as meadows of the second year.

If we compare the net profit obtained from artificial grass fields with that from cultivation of grain and roots, the cultivation of grass proves more sure and profitable than the former, but inferior to the latter. The average net profit per hectare (2.471 acres) was: Of oats, 20.60 kroner ($5.52); barley, 41 kroner ($10.99); autumn rye, 1 kroner (26.8 cents); autumn wheat, 4.80 kroner ($1.29); turnips, 77.30 kroner ($20.72); potatoes, 164.60 kroner ($44.11). These figures must, however, not be considered as statistically correct, as they are only results of six years' cultivation of this property under circumstances different from those of other localities. It must be borne in mind that farming is going on for the sake of the instruction of the pupils, and many things are here arranged otherwise than on an ordinary private property.

The prices of such grounds as are used for cultivation of fodder, where, at other periods, grain and roots are also raised, may be valued at 600 to 800 kroner ($160.80 to $214.40) per hectare, when sold together with the whole farm. When single lots are sold separately, the prices would probably rise to upwards of 1,000 kroner per hectare. These prices have, during the past few years, been the highest obtainable, as prices of landed property are now declining.

In order to make farming as profitable as possible, it is now more than ever necessary to produce much good fodder at the cheapest possible prices. This cultivation requires less expense than others. The area occupied by fodder plants has every year become larger and the cultivation of grain has declined. Vetches and vats are also now raised more frequently than formerly. It becomes more and more apparent that the farmers, if they would prosper, must raise more and better live stock, a condition of which is a larger and improved cultivation of forage.

GERHARD GADE,
Consul.

CHRISTIANIA, *January 18, 1895.*

TURKEY.

After careful inquiry, I am unable to learn of any grass or forage plants grown in this district that are not already known in the United States.

LUTHER SHORT,
Consul-General.

CONSTANTINOPLE, *October 24, 1894.*

TASMANIA.

I inclose herewith a memorandum which the superintendent of the Botanical Gardens has been good enough to furnish of the desirable grasses of Tasmania. He would undertake to forward seeds and specimens for the herbarium of each plant in exchange for such as the Department of Agriculture may supply. None of the native grasses have been cultivated, so I am unable to furnish any information beyond that contained in the memorandum of the superintendent of the Botanical Gardens.

A. G. WEBSTER,
Consul.

HOBART, *September 5, 1894.*

NOTES ON SOME OF THE MOST DESIRABLE TASMANIAN GRASSES FOR MORE EXTENDED CULTIVATION.

(1) *Anthistiria ciliata*, the common "kangaroo" grass. This grass is much relished by stock and gives a good amount of food. It is one of the best.

(2) *Danthonia pennicillata*, "wallaby" grass (several varieties). This is a good grass for mixed pasture.

(3) *Dichelachne crinita* (*Stipa dichelachne*). This is a very good pasture grass, especially in good ground, where it gives an abundance of feed.

(4) *Hierochloa redoiens*, a nutritious grass available for cold, damp ground; it is highly perfumed.

(5) *Microlæne stipoides* (*Ehrhartie stipoides*), a good perennial pasture grass; keeps green all the year and succeeds on poor ground.

(6) *Stipa setacea*, a coarse but good, drought-resisting grass.

The above are all the most desirable kinds. Seed of the first could be gotten in some quantity in the proper season. The other kinds would at present only be available in small quantities for trial. They could be sent as an exchange.

F. ABBOTT,
Superintendent Botanical Gardens.

STRAITS SETTLEMENTS.

This is not a stock-raising country, and virtually no attention is therefore given to the growing of forage plants. The native buffaloes used for draft purposes, as well as the horses imported from Australia and ponies from the Netherlands Indies, are fed almost exclusively upon "pade" or

unhusked rice, crushed food, derived mainly from India, and the ordinary water grasses. I have, however, obtained from the director of the Botanic Gardens and Forests here and forward by this mail specimens of the *Isachne australis* and *Leersia hexandra*, the two best-known varieties of fodder grasses produced in damp localities in these parts, and shall accompany these with a bag of seed of each, in order that they may be experimented with by the Department of Agriculture. No plants are cultivated here especially for fiber, though rope is made from the inner bark of the sugar palm, and the leaves of other palms are used for thatch.

E. SPENCER PRATT,
Consul-General.

SINGAPORE, *September 4, 1894.*

TARRED-FELT ROOFING PAPER.

The following reports upon the sale of tarred-felt roofing paper in Great Britain were made in response to a circular from the Department to consular officers, which says:

The Department has been requested to secure, through your good offices, information relative to the various kinds of tarred-felt roofing paper in use in the United Kingdom; how the same is put up for sale, the price per roll or yard, and all other information which may help American manufacturers of felt-roofing paper to determine whether they can profitably introduce their goods into the British market. You will, therefore, make proper investigation into the matter in your several districts, and report the results at your earliest convenience. The answers will be printed in the CONSULAR REPORTS. If, without much inconvenience, small samples of the felt can be secured and transmitted with the reports, they will be appreciated by American manufacturers.

The samples sent with the reports have been transmitted to the firm of manufacturers and dealers in New York city, at whose request the inquiry was made.

BELFAST.

I am informed by the manufacturers in this city that there is no tarred-felt roofing paper made in Ireland; that the tarred felt used for both roofing and sheathing in its several varieties is made from flax waste and jute. The latter is much more expensive than the flax waste, and is more generally used for sheathing because of its texture and strength, which enable the manufacturer to compress it into thinner proportions than the flax waste, a condition highly essential to suit it for sheathing. While felt-roofing paper could be made much cheaper than the felt made from flax or jute, it is claimed because of its lack of strength and of resistance to the deteriorating effect of weather and climate, that, in the end, the felt made of the flax waste or jute is far cheaper, besides being absolutely impervious to water. It is asserted that, with an annual coat of coal-tar varnish, it will endure indefinitely; as

proof of this, a job done thirty years ago was cited "as good as new," and, so far as I was able to discern, it was in a fair state of preservation. It is claimed that builders and property owners understand and appreciate the alleged superiority of the flax or jute felt over other felts made of cheaper material, and, therefore, could not easily be induced to experiment with untried material.

Of the nine concerns in the Kingdom which make roofing felt, six of them are located in Belfast, two in London, and one in Greenock. The industry, it is asserted, originated in this city fifty years ago, and has kept constantly enlarging until the output last year of felt, in its several varieties, aggregated 7,600 tons and approximated in value $300,000. It is claimed that if the year had not been one of such unusual commercial depression, the output would have been one-fourth larger. The cause assigned for the growth of the industry in Belfast, beyond that of larger and more central cities, is that so many flax-spinning mills located in the immediate vicinity afford a cheap, excellent, and plentiful supply of material, while freights are very low to and from all parts of the Kingdom. The bulk of the jute comes from Dundee, Scotland.

It is to be added also that the works are very economically and capably managed. Labor is plentiful and reasonable; the machinery appears to be of the most improved and complete character. Where the work is light enough, such as feeding the machines, female help is utilized.

The cheaper grade of felt goes through a vat of ordinary pitch tar before passing through the rollers, which have a pressure of from 4 to 6 tons. The more expensive felts are put through a mixture composed of resin and Stockholm tar, which makes them far more compact and more impervious to water. The machinery is mostly hand fed and requires expert feeders to turn out two rolls of exactly the same thickness and weight, and even then it is rarely accomplished. In this particular, I thought the machinery susceptible of improvement, such as the supply being exactly regulated by automatic or other mechanical appliance, although the very light and bulky character of the material may make such perfection extremely difficult.

The felt is sold by the yard, by the roll, and sometimes by the crate. In fact, it may be put up for sale in any way the customer may order. The rolls are usually 25 yards long, but any length of roll, from 10 to 50 yards, may be put into the measurement; and there is no understanding in the trade in this matter. If packed in crates, from four to twelve rolls may be packed in one crate, according to size; this is also a matter which is left entirely to the customer. The only thing upon which manufacturers agree is the list price of the following classes of felt: Roofing felt, roll of 25 yards, 32 inches wide, weighing 86 to 100 pounds, 16 cents per yard; sarking felt, roll of 25 yards, 32 inches wide, weighing 56 to 62 pounds, 12 cents per yard; black sheathing felt, roll of 25 yards, 32 inches wide, weighing 36 to 42 pounds, 9 cents per yard; brown sheathing felt is usually sent to the United States in crates containing 200 to 250 sheets, each 32 by 40 inches,

the list price being 12 cents per sheet with all manufacturers; inodorous felt, rolls of 25 yards, 32 inches wide, 16 cents per yard; boiler of dry-hair felt, No. 3, sheet 20 by 34 inches, weight 32 ounces, 22 cents per sheet.

The above quotations are from the several published price lists, which, however, are far above the actual prices, which, in most instances, are as much as 65 to 80 per cent below printed quotations. These discounts vary with the financial standing of the purchaser, promptness of payment, and magnitude of the order.

I am informed that about 5 per cent of the output goes to the United States, and this is almost entirely sheathing, and some roofing felt. The United States, Norway, and Nova Scotia are nearly the only markets left for ship sheathing, they being the countries in which wooden vessels are mostly built, and the number is annually growing less. The larger proportion of the output is consumed in Great Britain and the Continent, some going to Egypt.

All the felt works in Belfast include and operate some kindred industry which helps, either directly or indirectly, to minimize the expense and to promote the main business. Besides the manufacture of roofing, sheathing and lining felts, for walls and ceilings, they make foundation felt slabs, to exclude dampness; shoemakers' felt; nonconducting hair felt, with or without asbestos backing; felt varnish and mineral paint. Some of them manufacture mineral and other fertilizers, utilizing the hair of the dead animals absorbed in their fertilizing output for a certain line of felts. It may also be remarked that nearly all the concerns are prepared to, and do, contract to erect the roof of the structure which is to be covered with felt. One establishment has a well-equipped sawmill attachment for getting out timber and lumber necessary to build wooden structures throughout

So far as I can ascertain, there are no American-made felts used on this side of the water.

JAMES B. TANEY,

BELFAST, *September 5, 1894.* *Consul.*

BIRMINGHAM.

I have made inquiry concerning the manufacture of tarred-felt roofing paper, and beg to report that I find only one small manufactory of such goods in this district—that of William Robb & Co., in connection with the making of rope, twine, and sacking. Their factory is at Nechells, one of the suburbs or wards of this city.

It has not been possible to obtain any detailed information concerning the methods of manufacture, but the manager readily complied with my request for circulars containing a description of the methods of packing and of the finished products, a price list with discounts, and samples of goods.

GEORGE F. PARKER,

BIRMINGHAM, *October 23, 1894.* *Consul.*

LIST OF FELTS.*

The patent asphaltic roofing felt.—Makes a light and durable roof of itself, about three-sixteenths of an inch thick. When used along with asphalt laid on brick arches, platforms or floors, it prevents cracks or fissures. In rolls 25 yards long, 32 inches wide, containing 200 square feet, 8d. per running yard, or 1d. per square foot. Packed in frames of four rolls, each measuring 2 feet 10 inches by 2 feet 4 inches by 1 foot 11 inches, equal to about 13 cubic feet, and weighing about 3 cwts., 2 quarters; six rolls, each measuring 2 feet 10 inches by 3 feet 5 inches by 1 foot 11 inches equal to about 18½ cubic feet, and weighing about 5 cwts.

Slaters' or sarking felt.—Is of the same character as roofing felt, but thinner (about one-eighth of an inch thick) and more pliable. For this reason it is easier worked under slates. In rolls 25 yards long, 32 inches wide, containing 200 square feet, 6d. per running yard, or three-fourths of one penny per square foot; packed in frames of six rolls, each measuring 2 feet 10 inches by 2 feet 10 inches by 1 foot 8 inches, equal to about 13½ cubic feet, and weighing about 3 cwts. 1 quarter 7 pounds; 8 rolls, each measuring 2 feet 10 inches by 3 feet 6 inches by 1 foot 8 inches, equal to about 16½ cubic feet, and weighing about 4 cwts. 1 quarter 14 pounds.

Inodorous felt.—Light in color and free from smell. Highly recommended and much used for lining walls, metal buildings, and under slates, about one-eighth of one inch thick. In rolls 25 yards long, 32 inches wide, containing 200 square feet, 8d. per running yard, or 1d. per square foot.

Ship-sheathing felt.—Brown, 3d. per sheet, 32 by 20 inches; black, 2½d. Packed in frames of 250 double sheets, 32 by 40 inches, or ten rolls, equal to 500 sheets, each frame measuring 2 feet 10 inches by 3 feet 6 inches by 1 foot 6 inches, equal to about 14¾ cubic feet, and weighing about 3 cwts. 1 quarter.

Fibrous asphalt or foundation felt.—An effectual remedy to prevent damp rising. It will not crack under pressure, as pitch or asphalt does when applied alone. Accommodates itself to any settlement of foundations. Following are prices for stock sizes, 4½ by 32 inches, 1½d. each; 9 by 32 inches, 2½d.; 14 by 32 inches, 4d.; 18 by 32 inches, 3d.; 23 by 32 inches, 6½d.; 27 by 32 inches, 7½d.; 30 by 32 inches, 8½d.; 36 by 32 inches, 10½d. Other breadths to order at proportionate prices.

Nonconducting dry-hair felt.—For covering water pipes and cisterns to exclude frost, and lining under roofs, etc., to equalize the temperature. In sheets 34 by 20 inches—No. 0, about three-fourths of a pound per sheet, 6d., in frames of 100 sheets each, equal to about 7½ cubic feet; No. 1, about 1 pound per sheet, 7d., in frames of 100 sheets each, equal to about 9 cubic feet; No 2, about 1½ pounds per sheet, 9d., in frames of 100 sheets each, equal to about 13½ cubic feet; No. 3, about 2 pounds per sheet, 11d., in frames of 50 sheets each, equal to about 9 cubic feet; No. 4, about 2½ pounds per sheet, 1s. 1d., in frames of 50 sheets each, equal to about 11 cubic feet; No. 5, about 3 pounds per sheet, 1s. 3d., in frames of 50 sheets each, equal to about 13½ cubic feet; also made in long lengths at proportionate prices.

Prepared roofing felt.—Specially prepared for hot climates, ready coated. This felt, although in use for a long time, has not been prominently brought under the notice of architects and builders. Price, 1s. per running yard, or 1½d. per square foot; 32 inches wide, in rolls 25 yards long; packed in frames of two rolls, each measuring 2 feet 10 inches by 2 feet 4 inches by 1 foot 2 inches, equal to about 7¼ cubic feet, and weighing about 2 cwts. 3 quarters.

BRADFORD.

The tarred roofing felt used in this district is put up for sale in rolls of 25, 30, and 35 yards long by 32 inches wide. There are three kinds, varying in thickness, known as roofing felt, for use by itself; sarking felt, for

* Prices subject to 50 per cent off.

placing under tiles, slates, or metal; and sheathing felt, for like purpose. The roofing felt is principally made use of. They are put up by the makers for dispatch in crates holding half a dozen rolls.

The retail prices, per dozen roll lots, are: Roofing felt, three-sixteenths of an inch thick, 16 cents per yard, or 2 cents per square foot; patent sarking felt one-eighth of an inch thick, 12 cents per yard, or 1½ cents per square foot; sheathing felt three thirty-seconds of an inch thick, 8 cents per yard, or 1 cent per square foot. These prices are subject to a discount by the makers to the sellers of 65 per cent for cash.

Inferior qualities are made, but as they contain a large quantity of sand they are not so merchantable here.

There are numerous makers in this country, but the bulk of felt brought into Bradford comes from London. The merchants say there is a fair demand for felt roofing. This being an article open to fraud in the manufacture, only the better qualities are kept and these are secured from the most reputable firms. The maker's name and prices are given on the samples.

The following list comprises some of the firms in Bradford dealing in this article: Heap & Walker, 22 Tyrrel street; Hy. Leggott & Co., 73, 75, and 77 Market street; John Mollett, 4 and 6 North Parade; William E. Raine, 22 Wakefield Road; E. Robertshaw & Son, 158 Manchester Road; Taylor & Parsons, 28 Bank street; Edwin Wilson & Co., Millergate.

CLAUDE MEEKER,
Consul.

BRADFORD, *September 6, 1894.*

BRISTOL.

Felt is manufactured in various ways in England to meet the various requirements of the domestic, foreign, and colonial markets.

Roofing felts, made with asphalt, have a large sale in England. They are usually put up in rolls 25 yards long by 32 inches wide. Three qualities find favor, whose net prices are as follows: No. 1, $1.20 per roll; No. 2, $1.56 per roll; No. 3, $2.19 per roll. Nails for fastening these are quoted at 24 cents per thousand.

Inodorous felt finds a good market for inside use in a climate so damp as that of England. It is used to line walls, etc., and it contributes materially to comfort. It is put up in rolls of the same size as roofing felts, is one-eighth of an inch thick, and the price is 2 cents per square foot, subject to a trade discount.

Foundation felt, as the name implies, is used to prevent moisture and damp from coming in from underneath. Andrew Potter, of the Melbourne Works, Wolverhampton, a large and well-known manufacturer of this class of goods, keeps the following sizes of this sort of felt in stock: Four and a half by 32 inches, 3 cents each; 9 by 32 inches, 5 cents each; 14 by 32

inches, 8 cents each; 18 by 32 inches, 10 cents each; 23 by 32 inches, 13 cents each; 27 by 32 inches, 15 cents each; 30 by 32 inches, 17 cents each; 36 by 32 inches, 21 cents each. These prices are subject to discount, and special sizes and breadths would be supplied upon demand.

Roofing felt specially manufactured for export and prepared to resist extreme heat, is quoted at 24 cents per running yard. It is put up in rolls 25 yards long by 32 inches wide. A frame of two such rolls packed for export (each roll measuring 2 feet 10 inches by 2 feet 4 inches by 1 foot 2 inches) would measure nearly 8 cubic feet, and would weigh about 300 pounds.

Nonconducting hair felt, to exclude frost from water pipes, etc., is made in different weights, in sheets 34 by 20 inches. Prices and method of packing are as follows: Three-fourths pound per sheet, 12 cents, in frames of 100 sheets each, equal to about 7½ cubic feet; 1 pound per sheet, 14 cents, in frames of 100 sheets each, equal to about 9 cubic feet; 1½ pounds per sheet, 18 cents, in frames of 100 sheets each, equal to about 13½ cubic feet; 2 pounds per sheet, 22 cents, in frames of 50 sheets each, equal to about 9 cubic feet; 2½ pounds per sheet, 26 cents, in frames of 50 sheets, equal to about 11 cubic feet; 3 pounds per sheet, 30 cents, in frames of 50 sheets each, equal to about 13½ cubic feet.

Ship-sheathing felt, brown, 32 by 20 inches, 6 cents per sheet; black, 5 cents.

LORIN A. LATHROP,

BRISTOL, *October 8, 1894.* *Consul.*

CARDIFF.

I have the honor to inclose samples of felt commonly used in South Wales; also a price list* issued by Messrs. D. Anderson & Son (limited), London, one of the leading firms engaged in the manufacture of felt in this country. It will be seen by an inspection of the samples that the material is coarse in each instance, and my information is to the effect that the coarsest of all is the kind most largely used. That does not say much, however, for there can be no question that the quantity of felt used in this country is somewhat limited, and this fact will be readily appreciated when it is borne in mind that all the buildings in this district are either of stone or brick (the former chiefly), while the roof is generally of slate, which is easily obtainable from North Wales, where monster slate quarries are worked. It is in exceptional cases only that architects direct felt to be placed underneath slate; hence the quantity consumed can not be considerable so far as inhabited dwellings are concerned; and although in respect of outhouses covered with brick, tile, or galvanized-iron roofing, felt is occasionally brought into requisition, it is not used as a complete covering save in the rural districts, but is fixed beneath slate or some other roofing material.

* This price list is a duplicate of that given in the report of the consul at Birmingham.

The prices, respectively, of the three kinds in common use here are equivalent to 16 cents, 12 cents, and 9 cents delivered, less discount, which I find varies at times according to the state of the market, the amount at present being high and ranging from 60 per cent and 5 per cent for lots under six rolls to 70 per cent and 5 per cent for lots over six rolls, and 70 per cent and 10 per cent for lots over £100 gross value, with a further 2½ per cent for cash monthly.

ANTHONY HOWELLS,

CARDIFF, *August 21, 1894.* *Consul.*

CORK.

There is very little roofing paper now used in the south of Ireland, corrugated iron being preferred as a cheap roofing material. "Roofing felt" is sold here at 10 to 12 cents per yard. It is put up in rolls of 25 yards, and is 2 feet 9 inches wide.

Now and then, refuge huts for railway employees are seen covered with paper, but most of the temporary or flimsy buildings, of which there are few, are roofed with corrugated iron, the material which is generally used in their construction. The thatched roof of the Irish peasant's cottage, beautiful in song and story, and picturesque in the landscapes forever green, is fast passing away, giving place to iron that is leaden-hued and hideous. Indeed, the number of such cottages is rapidly diminishing, as many a crumbling ruin upon the roadside bears mute witness. "Model dwellings" and "laborers' cottages" are becoming more numerous, much to the comfort of those who live upon the land. The old cottage was built of clay, with the addition of a little stone here and there, or wood. Its floor was the bare earth and its roof straw from the fields near by. It was essentially of the soil, and being so, it was, doubtless, dearer to those who peopled it, as it undoubtedly was to those hardy sons who went forth from its humble door to fight for fortune and fame in lands of greater promise. None of these cottages of the olden type are being built now, and one of these days we shall have the ruins of the last of them roofless to the blue sky.

In the towns, slate is the almost universal roofing material.

LUCIEN J. WALKER,

CORK, *October 6, 1894.* *Consul.*

DUBLIN.

From the information I have been enabled to obtain, it appears that roofing paper is not in use in this district, and that there is no demand for it. I may add that there is a preparation of tarred felt employed for the roofing

of sheds, lining of buildings, etc., but the dealers inform me that the character of goods described in the Department instruction is not handled by the trade here.

NEWTON B. ASHBY,

DUBLIN, *October 26, 1894.* *Consul.*

DUNDEE.

Tarred-felt roofing paper is largely used in the construction of houses in this district, but none of it is manufactured here, the supplies being obtained from various parts of the Kingdom. It is applied as an intermediate course between the sarking and the slates or tiles with which the roofs of houses in this country are almost universally covered. In many cases, it is also used by itself as a covering for sheds and other premises of a temporary nature, being afterwards coated with tar as a further means of preservation.

The kinds of felt mostly used are made in rolls 25 yards long by 32 inches wide, which are packed for the market in frames of six rolls each. The price of this material ranges from 4½d. to 8d. per lineal yard, upon which a trade discount is allowed of 67½ per cent and 10½ per cent.

In addition to the foregoing, there is a large consumption of what is known as foundation felt, which is applied to foundation walls to prevent damp arising, and is also put under concrete, stone, brick, or tile floors for dryness and warmth. This latter is usually kept in stock sizes from 4½ by 32 inches to 36 by 32 inches, other sizes being made to order. The price of the former size is 1½d., and of the latter, 10½d. each, and the trade discount is 25 per cent.

JOHN M. SAVAGE,

DUNDEE, *September 13, 1894.* *Consul.*

DUNFERMLINE.

Referring to the Department circular of July 25, 1894, respecting "roofing paper," I have to report that this district is essentially a rural one, except in the single department of linen and linoleum, and that nothing is known here of the article named.

JAMES D. REID,

DUNFERMLINE, *September 4, 1894.* *Commercial Agent.*

GLASGOW

Tarred-felt roofing material is put upon the market in this part of Scotland in the form of rolls 50 yards in length by 34 inches wide. Roofing felt is quoted at 8d. (16 cents) per running yard, and sarking felt at 6d. (12

cents) per running yard, with discounts on large orders of 67½ and 5 per cent. These quotations are for goods free on board at Glasgow. There are in Glasgow about thirty manufacturers and agents of manufacturers of tarred-felt roofing material.

ALLEN B. MORSE,
Consul.

GLASGOW, *August 20, 1894.*

HUDDERSFIELD.

Felt roofing paper is used to a very limited extent in Huddersfield and district at the present time, and there are no dealers who handle it in large quantities. Occasionally, it is used to cover temporary structures, and, after being put on, is thoroughly tarred and covered with ashes and sand. For churches, public buildings, and the more pretentious class of dwellings, it is sometimes used between the sheeting and slates with which the structures are covered. The class of buildings here mentioned, however, will hardly be in demand for some time to come.

As a general thing, the felt roofing paper is bought in London or Liverpool, and the tar is placed on it by the builders after they receive it.

Very little of the material is carried in stock by the hardware dealers in Huddersfield, the demand being so limited that it is ordered direct from London or Liverpool as it is needed. The price in Huddersfield varies from $1.50 to $2.60 per roll, according to quality and weight.

Huddersfield has a surplus of dwellings, as well as other buildings. During the time of its greatest prosperity, when fortunes were quickly made by manufacturers of woolens and worsteds, the town was overbuilt; hence, although the industries are fairly prosperous now, building operations are carried forward on a limited scale.

For roofing purposes, gray slate, which is abundant, cheap, and convenient, is used almost exclusively.

It does not seem practicable to extend the market for American felt roofing paper in the Huddersfield district, unless it is done through the wholesale dealers in London and Liverpool, as there are no houses in Huddersfield where such material is handled in appreciable quantities.

Building stone and slate roofing, which are plentiful in the immediate vicinity, are prepared and dealt in considerably by builders and contractors here, but, as before stated, there is no demand for felt roofing paper now, nor does the prospect for such demand in the near future seem at all encouraging.

FRANK C. McGHEE,
Consul.

HUDDERSFIELD, *December 11, 1894.*

HULL.

Referring to Department circular of July 25, 1894, I have to report that, after most diligent investigation and inquiry, I can not find that there is any tarred-felt roofing paper made in this consular district. There is a tarred cloth made at Leeds.

W. J. H. BALLARD,
Consul.

HULL, *August 24, 1894.*

LEITH (EDINBURGH).

Owing, probably, in a great measure, to the high price of timber of all descriptions, tarred felt covering is used very extensively and for various purposes by builders throughout Scotland. I am informed that a large part of such material used here is of Scotch manufacture. The principal portion comes from Aberdeenshire and from Greenock, in Renfrewshire. A considerable quantity is also brought into Scotland from Belfast and an almost equally large quantity from London. None is, at present, imported from any foreign country.

There are three varieties of felt (all of them of about the same price, taking into consideration the thickness of each), in general use here. None of these require to be tarred after being laid. One of them is ordinary tarred felt paper. The prices of this description range from 1s. (24 cents) per square yard for the best thick outside roofing felt, to 5d. (10 cents) per lineal yard, 32 inches wide, for a felt of the same quality, but much thinner. By far the greater portion of the material used in the cities in this country is of the thin quality called "sarking" or "slater's" felt, the heaviest of which, in general use, is about three-thirty-seconds of an inch thick, while the lightest is not more than two-thirds of that thickness. This material is principally intended for laying on roofs which are to be covered with slate. Being used principally by slaters, it has become known as slaters' felt.

Slate is almost invariably used as the outside covering for the roofs of dwelling houses in the cities and towns of Scotland. In certain of the small villages and in the country, some houses are roofed with thatch, tarred felt being, I believe, in some cases put on under the thatch, while for the outside covering of the roofs and sides of outhouses, etc., on farms, tarred felt is used to a considerable extent, as is also corrugated galvanized-iron sheeting.

The second variety is made of the same material as the first—that is to say, it is a paper felt, but it is treated in a different manner, being covered with some composition of a gummy nature. This class of felt is called "gum asphalt," and is manufactured in Scotland at Kirklistan.

The third class of felt used here is made of a different substance from that employed in the composition of the other two—some fibrous material—and is covered with a kind of cement. One of the varieties is known as "Anderson's Patent Fibrous Foundation Felt." As the name implies, this felt is not intended as a roofing material, and it is not so used. The only purpose for which it is adapted is to prevent damp from rising from foundation walls. Each of the other classes of felt spoken of above is also largely used for this purpose. When foundations of houses, etc., are finished to about 6 inches above the ground, a bed of mortar or cement is laid on the top, and on this is placed a layer of the felt, and, after covering it well with mortar, the foundations are proceeded with. As it is a usual custom to treat foundations in this manner (sometimes a layer of asphalt is put in place of the felt), all felts used in this country are manufactured in different widths, so as to be easily adaptable to the various ordinary breadths of foundations. Sheets of felt for this purpose are often supplied in 32-inch lengths.

Besides using prepared felt for the purposes mentioned, it is in Scotland sometimes put beneath floors, especially over the tops of the dwarf walls to prevent rot; for the latter purpose, it is placed below the board upon which the joists rest. The usual widths in which the felt is made are, I am informed, 5, 10, 15, 20, 25, and 32 inches, the latter being invariably the breadth of all felt especially intended for roofing purposes.

The goods, I understand, are always put up in rolls 25 yards in length, and, as it is not a material which is liable to be damaged in transportation, no particular care is ordinarily taken in packing it. The custom is to pack it in crates, which depend in size, shape, and construction upon the quantity and width of the felt to be forwarded.

As has been indicated, only felt exceeding three-thirty-seconds of an inch in thickness is generally used for permanent ontside roofing, or other outside purposes, or in connection with foundations.

Careful inquiry convinces me that no prejudice or hostility exists among dealers here against foreign-made goods of any description whatever, so far as their being made outside of Scotland is concerned, and that any American goods will find a ready market here provided they are of greater value than Scotch goods of the same description and are properly introduced and placed upon the market. And if American manufacturers can supply tarred-felt roofing paper, or similar material, of equal quality to that made in Great Britain, at lower prices, or of a better quality at equal prices—somewhat better value would, of course, be essential in order to make it worth while for dealers in this country to make any change in regard to the source of their supplies—there will be a good market for it in Scotland upon its merits becoming generally known. In order that they may become known, it would probably be necessary not only to advertise the goods extensively here, but also to have agents call on dealers, architects, and others, and explain any advantages to be gained by the use of the American-made goods.

The following are the names and addresses of three of the principal dealers in felt roofing, etc., in this immediate neighborhood: Messrs. Joseph A. Currie & Co., Tower street, Leith (who have a branch firm at Glasgow under the name of Currie & Co.); James Steele, 2 Torphichen street, Edinburgh; and Messrs. W. & H. Calvert, 10 North St. Andrew street, Edinburgh.

A dealer who has an extensive business in Leith informs me that the demand for the felt in cities in Scotland is pretty much the same all the year round, but that, possibly, early in autumn would be the most favorable time to attempt to introduce any new brand of roofing or other felt into this district.

ROBERT J. MACBRIDE,
Consul.

LEITH (EDINBURGH), *December 31, 1894.*

LIVERPOOL.

On making inquiry from the manufacturers of roofing felt, etc., I am informed that they do not know of any tarred roofing paper being made, but I gather the following particulars that may be of interest:

Forty years ago, brown paper was largely used under the copper or other metal sheathing of ships, being first dipped in tar alongside the vessel. It was mostly in sheets of 54 by 33 inches, and was placed upon the ships' planking and then covered with the metal sheathing. It is not known that any paper is so tarred and used at the present time, but it is believed a paper is prepared with a tar-product coating on one side and used for lining packages. The ship-sheathing paper has been entirely superseded by the patent sheathing felt. This felt is usually called "sheathing felt," is made of flax and other fibrous material in two kinds, brown and black, the one saturated with Archangel tar and pitch and the other with coal tar and pitch. Both sorts are made in sheets and rolls and usually packed in skeleton frames measuring about 3 feet 6 inches by 2 feet 10 inches by 1 foot 1 inch or upwards, and weigh about 3 cwts. per package. It is chiefly used under the metal and wood sheathing of ships.

Roofing and lining felts are made somewhat thicker than sheathing felt, but of similar, though coarser, material, and in rolls from 25 to 50 yards, and packed usually in frames of four rolls each, measuring 2 feet 10 inches by 2 feet by 2 feet, and is used for lining wood buildings and roofing upon boards under slates and tiles, and also for outside roofing and sheathing, and for many other purposes. Sometimes the thinner descriptions are called "sarking" felt.

All tarred felts, whether sheathing or roofing, are made mostly of the same materials but of finer or coarser quality, according to circumstances as wanted to meet the views of the users.

I forward, under separate cover, samples of the different felts manufactured in this city, as follows:

No. 1 is a sample of roofing felt put up in 25-yard rolls, the price of which is 9 cents per lineal yard, net.

No. 2 is also a sample of roofing felt put up in 30-yard rolls, the price of which is 8 cents per lineal yard.

No. 3 is a sample of slaters' roofing felt put up in 40-yard rolls, the price being 7 cents per lineal yard.

No. 4 is a sample of asphalt lining felt put up in 50-yard rolls, and the price is 6 cents per lineal yard.

No. 5 is a sample of roofing chiefly used indoors and is put up in 25-yard rolls, and the price is 10 cents per lineal yard.

No. 6 is a sample of brown sheathing felt made up in double sheets and rolls, and the price is 3 cents per single sheet of a size 32 by 20 inches.

No. 7 is a sample of black sheathing felt also made up in double sheets and rolls, and the price is 2½ cents per single sheet, 32 by 20 inches.

No. 8 is a sample of heavy black sheathing felt also made up in double sheets and rolls, and the price is 3 cents per single sheet, size 32 by 20 inches.

Samples numbered 6, 7, and 8 are subject to a discount of 20 per cent. All of the above are delivered free on board, at Liverpool.

JAMES E. NEAL,
Consul.

LIVERPOOL, *August 30, 1894.*

LONDON.

Nearly all the roofs of buildings in and about London are covered with slate, tiles, or metallic substances. Felt is used sometimes on sheds and other small outbuildings, but the demand for it, I am advised, is quite small throughout Great Britain, and the market can not be recommended as a promising one for American manufacturers of the material. It is usually sold in rolls of 25 yards long and about 32 inches wide, and the price ranges from 8 to 16 cents per running yard, according to quality.

PATRICK A. COLLINS,
Consul.

LONDON, *October 13, 1894.*

MANCHESTER.

Very little roofing paper is manufactured in this district.

The goods offered for sale here are universally put up in rolls of 25, 30, 40, and 50 yards, and sold at so much per running yard. The tarred felts are usually sent out without packing, with the exception of a canvas band tied firmly around each roll. The roofing-paper felt rolls are also sent out

wrapped in canvas just sufficiently covered to protect them from wear in transit. The trade discounts vary according to the quantity ordered, from 2½ to 5 per cent, and with an exceptionally large order, say 10,000 yards, 7½ per cent discount for cash is allowed.

WILLIAM F. GRINNELL,

MANCHESTER, *August 24, 1894.* *Consul.*

NEWCASTLE.

In answer to the circular respecting roofing felt, I have to communicate the following information:

There are no manufactories of the article in this consular district, but only agents for its sale in Newcastle. The chief places of its manufacture are in Scotland and Ireland. I have been able, through the medium of others, to obtain the samples (with the prices attached) transmitted herewith, namely: Sample No. 1 (three pieces), "thistle" roofing felt, manufactured in Aberdeen; No. 2, asphalted roofing felt, No. 3, sarking, or slaters' felt, manufactured in Belfast; Nos. 4, 5, and 6, roofing felt, the place of manufacture of which could not be ascertained.

The article is packed in rolls of 25 yards each, and the samples sent are all of the uniform width of 32 inches.

WM. L. CAMPBELL,

NEWCASTLE, *September 7, 1894.* *Consul.*

NOTTINGHAM.

Conforming to the instructions to report on tarred-felt roofing paper, I beg to say that the product is put up by the English manufacturers in rolls 25 yards long and 2 feet 8 inches wide, the prices of which range from 3 farthings to 1d. per square foot, less a discount to the trade of 60 per cent.

Other roofings which compete with the above are slate roofings, which are furnished at from 28s. to 50s. ($6.80 to $12.06) per square (100 superficial feet) net, and galvanized iron (corrugated) which is furnished at £10 15s. net, per ton ($52.31). My impression is that the latter product is fast superseding felt roofing in this part of England.

A. D. DICKINSON,

NOTTINGHAM, *September 5, 1894.* *Consul.*

PLYMOUTH.

Careful search and inquiries have not resulted in finding tarred-felt roofing paper in use in this consular district.

THOS. W. FOX,

PLYMOUTH, *August 30, 1894.* *Consul.*

SHEFFIELD.

As buildings in this district are nearly all of a permanent nature, there is little tarred-felt roofing paper used, and it is employed only for wooden structures, temporary premises, and buildings of an exceptionally expensive character. It is put up for sale in rolls 25 yards in length and 32 inches wide. The source of supply is London, and the price of quality No. 1, bought in large quantities, is 8 cents per yard, and of quality No. 2, 5 cents per yard. Better terms are obtainable by wholesale houses. The former quality is retailed at 11 cents per yard, and the latter at 7 cents. Two samples of tarred felt accompany this report.

In addition to tarred felt, there is in the market a water-proof paper manufactured by a firm called the Willesden Paper and Canvas Works, whose city office is 51 Bow Lane, London, S. C. Its uses are many, chiefly under slating, underlining, and decoration. House decorators seem to be the principal buyers. The various kinds used are called one-ply, two-ply, and four-ply. One-ply is made up in rolls 22, 29, 56, and 59 inches wide, the price ranging from 3 to 18 cents per yard, according to quality and width; two-ply is made up in rolls 54 and 58 inches wide, the price varying from 24 to 36 cents per yard; four-ply is made up in rolls 19, 27, and 54 inches wide, the price varying from 18 to 55 cents per yard, this quality being used for roofing without boards, partitions, etc. The above prices are subject to a discount of 15 per cent. Samples of this Willesden paper are sent herewith, with full descriptions and prices marked thereon.

BEN. R. BEDLE,
Consul.

SHEFFIELD, *October 17, 1894.*

TUNSTALL.

The only kind of tarred-felt roofing paper that I can find for sale in this district is known as the "asphalt roofing felt." It is put up for sale in rolls 2 feet 8 inches wide, each roll containing 25 yards. It retails at 7½ cents per yard for best quality, and 6½ cents per yard for second quality. The prices are per roll. There is but little demand for it in this district, the small quantity sold being used to cover temporary sheds. Inclosed are samples of the above grades.

Tiles are universally used in this district for roofing purposes. The cost, per 100 square feet, is about $7.30.

WENDELL C. WARNER,
Consul.

TUNSTALL, *August 27, 1894.*

A GERMAN VIEW OF AMERICAN IMMIGRATION.

At the present time, when emigration from overpopulated Europe to the United States shows a most remarkable falling off, a timely and pointed article from the pen of Prof. A. Niggl, recently published in the Munich Allgemeine Zeitung, one of the most influential German newspapers, is causing considerable comment in circles directly interested. The author, who has had ample opportunity to study our country and its inhabitants, draws a faithful picture of Colorado's development, her sources of wealth and industrial rank, and at the same time, gives an outline of the state of affairs obtaining throughout the country generally, paying special attention in this connection to immigration. His views on this subject are likely to meet with almost general approbation, particularly when he states that our country is being seriously inconvenienced by the increasing trend of immigration toward the larger cities on the part of such immigrants as are averse to hard labor on farming land, and that we want a class of immigrants who are willing to solve the problem of existence in the less populated regions of the West and Northwest, thereby conducing toward the national wealth and welfare. "The United States," the professor says, "is in need of an immigration of intelligence and activity, and not of an invasion by ruined adventurers and poverty-stricken laborers."

In this connection, it may be well to remark, that the German emigration to America is not only not encouraged on the part of the German Government, but that, on the contrary, it has long been the purpose of the latter to increase the stringency of the laws controlling emigration. The incentive to this action is given in those circles favorable to the efforts put forth by the German Government for colonization, and it is consequently sought to preserve the superfluous population for the Empire itself, by directing the stream of emigration to the African colonies. It is true, however, that such efforts have as yet met with but small success.

I herewith append several of the most characteristic passages from Professor Niggl's exhaustive article. He says:

To gain an insight into American character, one must turn from the Atlantic westward. There, the characteristic features of land and people disclose themselves. The mere vastness of the territory in itself creates a deep impression and causes many an important question to frame itself in the mind of the observer. How much unsettled land, covered for miles and miles with prairie grass, how many thousand miles of virginal forests or woods already laid low, the remaining tree trunks hardly breast high! It is no wonder the laborer questions the use of working in the midst of such wealth. For, indeed, every step reveals an abundance of riches; Amalthea's horn of plenty is still filled for unnumbered millions.

With us in Germany, the ground for a healthy development is beginning to recede, and that is poison for all those social diseases, in curing which no Pasteur of national economy has as yet succeeded. But in the United States, in spite of the habitable land yet remaining, the phantom of social evils has likewise made its appearance. The cause for this deplorable fact is to be sought in that condition of affairs created by the gravitation to the larger cities

and the decided and almost violent aversion to, and avoidance of, such natural roads to welfare as are offered by agricultural labor. Long before the agricultural possibilities of the country had been even discovered, not to speak of being developed, an era of overproduction in business was inaugurated and carried on down to the present, and the punishment for this unnatural condition is the continually recurring industrial crises.

To develop the productiveness of North America, a greater density of population is required; thousands of acres of fruitful land are still awaiting settlement. But what is wanted is an immigration of intelligence and activity, and not an invasion of ruined adventurers and laborers totally without the means of subsistence. These people, perfectly convinced that they have nothing more to lose, hazard their last card by embarking for America, where, without money, experience, or knowledge of the language spoken, they soon fall a prey to the active, intelligent, but also jealous, laboring population and end by affiliating with the most dangerous elements of society. To be "reloaded" and sent back to Europe in a totally demoralized condition is one of the most favorable endings their ruined hopes can still count upon. And yet, if these men had been placed under the proper guidance and shown the right field for their labors, they would, perhaps, after a few years of energetic efforts, have become well-to-do citizens of the great Republic. The rational guidance of immigration into the best channels is, of course, first of all, the duty of America in serving her own interests; nevertheless, a well-organized and able society for that purpose in Germany would achieve valuable and permanent results. It would be practicable to send emissaries to the rich and uncultivated territories of the United States or British America, who should purchase lands for the emigrants, aid and support them with word and action during their first labors on the new soil and until they became able to care for themselves. Then the amortization of the capital invested in the land could be undertaken. Societies for the purpose lightly sketched in the foregoing would certainly attain to better results than modern congresses of sociologists, with their luxurious banquets, smoothly uttered toasts, euphemistic words of greeting, and thick reports standing as the sole result of labors finding their resting place on the dusty shelves of libraries, until the hand of some pedantic compiler exhumes them.

With the following observation, the author quoted draws his article to a conclusion:

It has been shown by the above that the United States still has room for millions, and that manifold sources of wealth are in existence to satisfy the wants of those coming millions. It is true that America is no longer the land of Canaan for such as hope to achieve success by unbounded zeal for speculation. But, on the other hand, there are many professions in life, especially the pursuit of agriculture, that promise a happy future and modest fortunes to those who go to America inspired by enthusiasm and industry.

LOUIS STERN,
Commercial Agent.

BAMBERG, *January 18, 1895.*

ARTIFICIAL SILK IN SWITZERLAND.

In August, 1894, Mr. Meeker, United States consul at Bradford, reported to the Department that a stock company was being promoted there for the manufacture of artificial silk* under patents of Dr. Friedrich Lehner, of Zurich, Switzerland, the inventor of the process, and that patents had also been taken out in the United States with the object of forming a similar company there, under the direction of the patentee, or of selling the rights.

*See CONSULAR REPORTS No. 171 (December, 1894), p. 538, and No. 173 (February, 1895), p. 273.

I have since learned that such a company has actually been organized in England under the name of the Lehner Artificial Silk Company (limited), with a capital stock of £108,000 ($525,528), divided into 10,800 shares of £10 ($48.66) each; but whether this stock has all been placed, and whether a factory is now in operation in England, I have not been able to ascertain.

I know, however, that a branch of this company has been formed in Switzerland, with its seat at Opfikon, Canton Zurich, and that Dr. Lehner himself is at present engaged in fitting up an establishment for the production of the article in question at Glattbrugg, in the immediate vicinity of Opfikon, and that he expects to have the same in running order in about four weeks.

Consul Meeker, in his report, explains the principle of the invention, and describes the process of manufacturing, as far as it is made public, so comprehensively that no further elucidation is required.

Dr. Lehner, the inventor of the process of production to be employed in the factories of the company, of which he seems to be also the principal stockholder, director, and manager, is not only thoroughly convinced of the utility and value of his invention, but also very hopeful of success. He admits that the principle of the invention is not new, but claims originality and superiority in regard to chemical composition, as well as improved mechanical appliances, whereby he is enabled to produce the article much cheaper than has formerly been possible. In what particulars Dr. Lehner's invention is original, I am not able to state, but I am informed that, while heretofore, only an 8 per cent workable solution of cellulose—the chemically prepared material from which the artificial silk is produced—was obtainable, Dr. Lehner has succeeded in securing a perfectly fluid and workable solution of 12 per cent. Besides this advantage, the value of which, if actual, needs no further demonstration, Dr. Lehner claims that he has succeeded in making the product uninflammable, and that, by a contrivance of his own, spinning and twisting can be done in one operation. In these points, at least, the Chardonnet system of producing artificial silk,* which has been tried for years, is expected to be outrivaled by the new process, though both are based upon the same principle. The fact that the world scarcely knew that such a thing as the manufacture of artificial silk was going on seems to prove that the process heretofore employed was not an overwhelming success. This, however, may partly be due to the prejudice naturally prevailing against the use of the artificial product; later improvements, cheapening the cost of production, may lead to different results.

There is a factory, working under the Chardonnet patents, in operation at Spreitenbach, Canton Aargau, Switzerland, under the management of Comte Gaston de Coral, representing the de Coral Company. If I am correctly informed, this is the remnant of a company formed some years ago with a large capital at Besançon, France, which, after many vicissitudes, is now run-

*See CONSULAR REPORTS No. 141 (June, 1892), p. 383, and No. 150 (March, 1893), p. 402.

ning the factory at Spreitenbach on a limited scale. The principal obstacle in the way of a more general use of the product of this company seems to be the price of the article, which, I am informed, is not much below the price of natural silk. As long as this is the case, the artificial silk, being of greater gravity, and at best only an imitation of the genuine article, can not successfully compete with it. If the claims of the Lehner company, that they are enabled to produce an article as good or better than the Chardonnet at a much lower price, are justified, it is not only possible, but very likely, that their product will find a market and come into general use for certain kinds of goods, in which attractive appearance is more desired than lasting qualities, such as fringes, braids, gimps, neckties, etc. This, at least, is the opinion of the proprietors of a large silk factory,* who have experimented with the Chardonnet silk, and who have furnished me with the inclosed sample of artificial silk thread and a piece of silk tissue, half of which is altogether of natural silk, while in the other half the warp is natural and the filling artificial silk, as marked on the piece.†

Dr. Lehner himself does not claim that his invention will replace the silkworm, or that his product will materially compete with the natural silk. He freely admits that the artificial silk has not the strength of fiber of the natural silk, but he holds that, on account of its glossy, lustrous appearance and its cheapness, it is admirably adapted for mixtures with cotton and other cheaper fibers, especially for changeables, furnishing goods, etc. In fact, he claims that any quantity of the article his company will be able to produce for a long time is engaged beforehand by cotton manufacturers and fringe drillers, and that there is every prospect of a steady increase of its consumption. Whether his expectations will be realized, remains to be seen.

WM. F. KEMMLER,
Consul.

HORGEN, *January 25, 1895.*

THE SWISS ALCOHOL MONOPOLY.

In order to better regulate the manufacture and sale of alcohol, prevent adulteration, restrict consumption among the poorer classes, and, at the same time, create a much-needed revenue for the cantons, the Federal Government, by virtue of the authority vested in it by the federal constitution, on December 23, 1886, enacted a law by which the right to manufacture and sell alcohol became the exclusive privilege of the Federal Government. This law was immediately put in operation.

The manufacture of alcohol is under the supervision ot the "federal alcohol administration," and the sales thereof are made by that authority. None but pure spirits are sold to the manufacturers and rectifiers of beverages, druggists, etc., and the product of home distilleries is invariably given

*Stuemzi Soehne, manufacturers and exporters of silks, Horgen, Canton Zurich, Switzerland.
†Samples filed in the Bureau of Statistics, Department of State.

the preference. All spirits obtained otherwise than from the distillation of the grape, wines, pomace, lees of wine, apples, pears, cherries, plums, prunes, etc., are subject to the federal monopoly and can only be sold by the Government. Such, however, as are obtained from the distillation of the above-named home products are free and can be sold by the parties producing them.

The Government obtains its alcohol supplies by contract with Swiss distillers, whose distilleries must be under Government control. Agricultural home corporations, distilling from grains and potatoes, are given the preference.

Foreign spirits are imported exclusively by the Government; so-called *Qualitaets-Spirituosen, i. e.*, liquors containing not over 72 per cent of alcohol, and imported by others, pay a monopoly tax of 80 francs per 100 kilograms ($16 per 220 pounds), plus a customs duty of 20 centimes (3.86 cents) for each alcoholic degree.

Exported articles, in the manufacture of which alcohol is consumed, receive a drawback in a proportion equal to the quantity of spirits used, provided that the quantity consumed for any one shipment is not less than 20 liters (23 quarts); for less quantities, no drawback will be paid.

All sales of alcoholic spirits, except in quantities of not less than 40 liters (42.3 quarts), by licensed wholesale dealers, is prohibited by law. Swiss farmers, however, are allowed to sell the products of their own stills, when distilled from fruits of their own farms, in quantities of not less than 5 liters (5.28 quarts).

The execution of the law devolves upon the federal council, with the assistance of the respective cantons. For the purposes of supervision and execution, the federal council appoints ten supervisors for a term of not more than three years, whose duties are: (1) To take charge of the product of Swiss distillers, distilling on contract with the Swiss Government, and to control the output; (2) to periodically take account of the administration's stock; (3) to supervise exports subject to drawbacks; (4) to supervise the denaturalization of spirits; (5) to keep a record of, and report upon, infringements of the law; (6) to perform the administration's office and other work. The country is divided into nine supervising districts, with one supervisor at its head.

Strict supervision is kept over distilleries, as to the location of premises, apparatus used, cleanliness, working hours, kinds of materials used for distillation, etc., and the supervisors must at all times have free access to the distilleries during the distilling period. The distilling period is limited to from seven to eight months of each year, beginning any time after the 15th of September. All the distillery establishments must be closed and sealed by May 15.

The net revenues of the alcohol administration are distributed among the cantons in a ratio proportionate to their population, as shown by the latest census, but each canton is held duty bound to set aside 10 per cent of such

net revenue for the exclusive purpose of restricting alcoholism and for the support of institutions created for the purpose of curing and redeeming drunkards.

Alcohol is purchased from contracting distillers in quantities of not less than 150 nor more than 1,000 hectoliters (3,965 and 26,417 gallons) at a time, and at a price fixed from time to time by the federal council, which, however, can not be lower than 130 francs ($25) nor higher than 150 francs ($28.95) per hectoliter (26.417 gallons) of proof alcohol, cash, exclusive of packages.

Four kinds of spirits are sold for the manufacture of beverages:

(1) Wine spirits, 95 per cent, monopoly brand "A. V. W.," similar in quality to the best absolutely neutral German wine spirits, distilled from filtered potato spirits, at 175 francs per 100 kilograms ($33.76 per 220 pounds) net, or 142.50 francs per hectoliter ($27.50 per 26.417 gallons), 95 per cent naked. (One hundred kilograms spirit at 95 per cent are equal to 122.7 liters of 95 per cent, or 116.6 liters proof.)

(2) Prime spirits, monopoly brand "A. V. P.," 95 per cent, corresponding in quality with the finest German potato spirits, at 170 francs per 100 kilograms ($32.87 per 220 pounds), or 138.53 francs per hectoliter ($26.74 per 26.417 gallons), 95 per cent naked.

(3) Fine spirits, 95 per cent, monopoly brand "A. V. F.," same quality as rectified German or Austrian spirits, at 167 francs per 100 kilograms ($32.23 per 220 pounds) net, or 136.08 francs per hectoliter ($26.26 per 26.417 gallons), 95 per cent naked.

(4) Crude spirits of various degrees of strength, say, as a rule, from 90 to 95 per cent, from the product of domestic distilleries, at 143.35 francs per hectoliter ($27.67 per 26.417 gallons), 100 per cent, without package.

Spirits used in the arts, for technical purposes, or in the household as fuel, are sold at cost by the Government, after being denaturalized and thereby made unfit for drinking purposes.

To denaturalize alcohol, two methods are resorted to, viz, the absolute and the relative. The absolute method is applied to spirits to be used as fuel in lamps or other utensils in the trades or households, and is denaturalized by the addition of coal-tar oil, pyridine bases, pyroxylic spirit, or other similar substances, to the pure alcohol.

The alcohol administration changes its method of mixture from time to time, so as to prevent renaturalization.

Alcohol consumed in the arts or in industrial pursuits is denaturalized so as to avoid neutralization of its usefulness. For instance, if alcohol is wanted for the manufacture of vinegar, acetic acid is the mixture; for varnish, camphor, turpentine, or shellac; for perfumery, a solution of castor-oil soap; for other industries, naphthaline, pyroxyline, benzine, nitric acid, ether, etc.

Spirits with relative denaturalization are sold only to bona fide, well-known manufacturers in possession of a federal finance department's license,

who must, upon receiving the spirits, subscribe to an obligation agreeing to use it only for their own account. They are, in addition, subjected to a strict control, and must at all times be prepared to show conclusively the quantity of denaturalized spirits consumed in their establishments.

Denaturalized spirits are sold as follows: Absolute, for fuel and other similar purposes, 94 to 95 per cent, at 55 francs per 100 kilograms ($10.62 per 220 pounds) net, or 45.25 pounds per hectoliter ($8.73 per 26.417 gallons), 95 to 94 per cent naked. Relative, for industrial purposes, per 100 kilograms (220 pounds) net—wine spirit, 66 francs ($12.74); prime spirit, 58 francs ($11.19); fine spirit, 53 francs ($10.23); and crude spirit, 45 francs per hectoliter ($8.68 per 26.417 gallons), 100 per cent.

Orders must be sent to the alcohol administration at Berne, and will be filled from one of the federal depots nearest to the point of the parties ordering the same.

The penalties for infractions of this law vary as to circumstances from, say, 200 to 10,000 francs ($39.60 to $1,930), or thirty times the value of the amount involved. For a second offense, the penalty can be doubled, and, in addition thereto, imprisonment not exceeding six months can be imposed.

The net profit on the sale of spirits by the federal alcohol administration was, for the year 1894, about 5,000,000 francs ($965,000), which sum was divided among the cantons according to law.

EUGENE GERMAIN,
Consul.

ZURICH, *January 22, 1895.*

CARDIFF COAL TRADE.

It is worthy of note that, in spite of the universal depression prevailing in general trade and commerce, the export of coal from the South Wales coal field has continued to increase, even if the prices maintained have not been fully satisfactory.

The coal market opened under excellent auspices at the commencement of 1894, but a gradually falling tendency was soon experienced, so that first-class coal, which at the beginning of January had realized 15s. 6d. ($3.77) per ton, and in certain instances $3.89, can now be purchased at $2.70. And, in view of the prices at which the Peninsular and Oriental Navigation and other large transatlantic companies have been enabled to let contracts to fill their annual requirements for 1895, representing over 1,000,000 tons, there is room to fear that prices will not, in the immediate future, move in the right direction.

The disastrous coal strike experienced here a few years since is not likely to be repeated, I am glad to believe, although there will doubtless be a great deal of anxiety when, at the end of March next, the six months' notice of withdrawal from the sliding-scale agreement will terminate. This notice has

been tendered by the men as the result of a ballot taken at the collieries, and the occasion of it is that the workmen are dissatisfied with the operation of the scale, which does not appear to be sensitive enough to affect their wages satisfactorily. The present board comprises representatives of both the masters and the men, and has been eminently successful in preventing strikes; therefore, it is hoped on every hand that wisdom will prevail, and that a new agreement will be entered upon.

There appears to be no lack of faith in the continued development of South Wales, as enormous sums of money are being expended in the sinking of coal pits into the deeper measures and the building of docks for the accommodation of increased exports. Among these are two monster new docks now being made in the port of Cardiff, where the need of such additions is often experienced when there is a pressure of business.

The coal shipments for the twelve months of 1894, compared with the previous year, have reached me this day, and they are as follows:

Description.	1893.	1894.	Increase.	
United Kingdom:	*Tons.*	*Tons.*	*Tons.*	*Per cent.*
Foreign*	29,045,114	33,067,754	4,022,640	13.84
Bunkers*	8,126,372	9,294,461	1,168,089	14.37
Cardiff:				
Foreign	9,835,937	11,187,861	1,351,924	13.74
Coastwise	1,575,490	1,769,628	194,138	12.32
Newport:				
Foreign	1,869,932	2,562,889	692,957	37.05
Coastwise	1,103,957	1,132,154	28,197	2.55
Swansea:				
Foreign	940,135	1,023,556	83,421	8.87
Coastwise	685,674	737,322	516,448	7.53
Llanelly:				
Foreign	130,807	167,563	36,756	28.00
Coastwise	55,596	74,544	18,948	34.08

*The United Kingdom returns include coal, coke, and patent fuel.

It will be seen from the foregoing that there has been a considerable increase all round, and that Newport and Llanelly (both within this consular district) show high increase percentages. It should be stated that, as bunker coal can not properly be classed as an export, the board of trade returns take no note of the quantities shipped for bunker purposes only.

Take the figures credited to Cardiff: They show the large total of nearly 13,000,000 tons for the year, but the actual total of coal shipped would reach nearly 16,000,000 tons if the bunker coal were added. To illustrate how large is the demand for this, because of its steam-making properties, I may mention that nearly two hundred vessels, including a large number of the large steamships engaged in the cotton trade, called here for bunker coal only on their way to the Southern States for cotton, or to other States for produce to be conveyed elsewhere, the import trade from the United States being practically nil at Cardiff.

It is surprising to me that so little progress has been made here in that respect; but the explanation is evidently that the coal trade has kept

increasing so much that all attention has, so to speak, been paid to exports. Now, however, schemes for improving the port are being discussed, and on questions of details a harbor trust, at a cost of many millions of pounds, was prevented being formed last year; but, in all probability, this huge scheme on the part of the city corporation will again be pushed forward.

I find that during the last five or six years, immense sums have been spent in providing facilities for the various branches of the import trade—warehouses have been erected capable of storing 26,000 tons of grain, and elevators of the most modern type have been constructed, so that the maximum dispatch in discharging cargoes is obtained at a minimum cost. There are also other monster warehouses, while the timber-import facilities are such that the timber trade here is the second largest in the Kingdom. As I have before pointed out, Cardiff would be a favorable port at which to develop an import trade in provisions from the United States, and it should be known that there are here very large ice stores, called into requisition by the importations of meat from South America.

To return to the coal question, I append a table showing the freights outward for steamers and sailing vessels, respectively:

Port.	December— 1893.		1894.	
Steamers.	*s.*	*d.*	*s.*	*d.*
Aden	9	0	8	6
Acheen			12	0
Alexandria	5	6	4	9
Algiers	6	5	4	10
Aarhuus	5	9	5	0
Ancona	6	3	6	3
Alicante	8	0	7	0
Amsterdam	5	9	5	3
Aguilas	8	0	7	0
Almeria	8	3	7	1½
Almazzarone	9	0	7	6
Bombay	10	0	7	6
Barbados	8	0	8	6
Barcelona	9	9	8	6
Brindisi	5	6	4	9
Buenos Ayres	11	6	8	0
Bone	7	8	5	8
Bordeaux	3	8	4	8
Bahia	11	6		
Brest	5	0	4	9
Bilbao	4	3	4	6
Bayonne	4	10	6	5
Batavia	15	0	11	0
Bastia	7	3	6	3
Bari	7	3	6	3
Colombo	10	9	8	9
Cape Town	13	0	11	3
Constantinople	6	3	*4	9
Cape de Verdes	6	6	6	3

Port.	December— 1893.		1894.	
Steamers—Continued.	*s.*	*d.*	*s.*	*d.*
Cadiz	6	9	6	3
Caen	5	3	4	6
Christiania	5	0	4	9
Charente	5	5	4	10
Cagliari	5	6	5	0
Carloforte	7	0	6	0
Catania	8	0	5	6
Civita Vecchia	6	6	6	0
Corfu	6	0	5	9
Copenhagen	6	6	6	0
Danube	9	6	7	0
Dieppe	4	6	4	3
Derindje			5	9
Dakar	8	0	7	3
Elsinore	7	0	6	0
Ergasteria	6	3	5	0
Fiume	7	6	6	3
Genoa	6	3	5	0
Gibraltar	5	9	5	3
Gandia	7	3	6	9
Granville	5	0	4	9
Hongkong	19	9	17	0
Havre	5	0	4	3
Huelva	6	3	5	0
Habana	9	0	7	6
Jamaica	7	0	6	6
Kustendje	7	0	5	3
Kurrachee	10	0		
La Rochelle	4	0	3	10

*Clean.

Freights outward for steamers and sailing vessels—Continued.

Port.	December— 1893.		1894.	
Steamers—Continued.	*s.*	*d.*	*s.*	*d.*
Las Palmas	6	0	6	3
Lisbon	6	0	5	0
Leghorn	7	0	6	0
Malta	5	0	3	10½
Marseilles	6	5	4	10
Madeira	5	9	5	10½
Malaga	8	6	8	0
Messina	5	10½	5	9
Odessa	6	3	5	0
Oporto	5	9	5	3
Oran	6	5	4	10
Port Said	6	9	5	0
Piræus	6	1½	4	10½
Passages	4	10½	5	4½
Palermo	6	0	5	9
Philippeville	8	10	6	5
Port Limon	11	6	10	0
Perim	9	0	8	0
Rio de Janeiro	14	9	14	6
Rouen	6	6	5	3
Revel	7	0	7	0
Reggio	5	9	5	0
Réunion			11	0
Singapore	12	0	9	9
St. Nazaire	4	0	4	0
Savona	6	3	5	1½
St. Malo	4	6	4	6
Sables d'Olonne	5	0	4	5
Sulina	7	0	5	10½
Spezzia	6	6	5	3
Stockholm	7	0	6	6
Seville	6	9	6	0
Santander	4	9		
Syra	6	3	5	0
Salonica	7	0	5	6
St. Michael's	6	1½	5	6
Smyrna	6	6	5	3
Suez	10	0	8	6
St. Lucia	12	0	10	9
Salerno	7	1½	6	0

Port.	December— 1893.		1894.	
Steamers—Continued.	*s.*	*d.*	*s.*	*d.*
Swinemunde	6	0	5	6
St. Vincent	8	0	7	3
Trincomalee			10	0
Teneriffe	6	6	6	3
Tarragona	8	6	7	0
Trieste	6	9	6	6
Tunis	7	6	6	4½
Taranto	7	0	6	3
Tampico	11	6	10	0
Trapani	6	3	5	9
Valencia	8	9½	6	6
Venice	6	9	6	3
Vigo	5	0	5	3
Villanueva			10	0
Varna	6	9	5	9
Veracruz	10	9	10	0
Sailing vessels.				
Algoa Bay	14	0	12	9
Bombay	11	0	11	0
Buenos Ayres	11	0	7	6
Batavia	14	0	11	6
Bahia	13	0	13	0
Barbados	9	0	7	6
Coquimbo	12	6	14	0
Callao	14	0	13	0
Colombo	10	0	9	6
Hongkong	11	0	14	0
Habana	10	0	8	6
Jamaica	7	0	7	9
Montevideo	12	3	8	6
Mauritius	13	6	12	0
Pernambuco	13	0	12	0
Para	13	0	13	0
Rio de Janeiro	15	0	14	9
Rosario	13	0	9	6
Rio Grande	25	0	26	0
Santos	24	0	18	0
San Francisco	11	6	15	0
Valparaiso	12	0	11	0

ANTHONY HOWELLS,

CARDIFF, *January 15, 1895.* *Consul.*

PAPER INDUSTRY IN AUSTRIA.

Last October, at an international congress of paper manufacturers in Antwerp, it was decided to form an international union of paper manufacturers, in order to regulate the trade and prevent overproduction.

Neither England nor Germany was represented, but the representatives of Austria-Hungary, France, Belgium, Italy, and Holland who were present

were all in favor of the union. A permanent committee was chosen to investigate the best method of checking overproduction.

Although no definite conclusion was reached by the congress, the general opinion was that the best way of regulating the production of paper was by closing the factories on Sundays and by forming a syndicate for the sale of paper. Such a syndicate might alter very materially the paper industry in Austria, which is suffering at present from overproduction.

In the report of the Association of Paper Manufacturers in Austria-Hungary, the following statistics relative to the paper industry are given: At the close of the year 1893, there were, without counting the smaller concerns, 174 paper factories, 210 pasteboard factories, and 34 pulp factories. The power employed in these factories was 57,093 horsepower of water and 14,151 horsepower of steam. The machines used were 230 paper machines, 407 pasteboard machines, 662 fiber machines, and 132 pulp machines. The production during the year 1893 was 150,000,000 kilograms (330,000,000 pounds) of paper, 7,200,000 kilograms (15,873,120 pounds) of pasteboard, 40,200,000 kilograms (88,624,920 pounds*), 63,500,000 kilograms (117,956,100 pounds*), and 72,000,000 kilograms (158,731,200 pounds) of pulp. The total value was estimated at about 50,000,000 florins ($20,000,000).

MAX JUDD,
Consul-General.

VIENNA, *December 13, 1894.*

MANUFACTURE OF GUT STRINGS IN SAXONY.

THE GUILD OF STRING MAKERS.

It is generally supposed, though it must remain a matter of conjecture, owing to the lack of information on this point in the town records, that the manufacture of gut strings was transplanted to the town of Markneukirchen through immigrating Protestant Bohemians during or soon after the Thirty Years' War (1618–1648). Some men, citizens of Markneukirchen, had acquired the trade and bequeathed to their sons the secret, for such it was considered, especially the knowledge of the component parts of the lye used to bleach the sheep gut.

In the year 1777, the union of string makers was founded, and on March 1, 1781—so the venerable document kindly lent for the occasion from the town archives informs us—had a membership of thirteen, which increased to thirty-six up to December 27, 1793. To join this union, the applicant had to perform the "master" work without the least assistance, under strict surveillance of one or more of the union's members. This work had to elicit the entire satisfaction of the representative men of the union, and consisted of one bundle (thirty pieces) of E strings, half a bundle (fifteen pieces) of D strings, half a bundle (fifteen pieces) of A strings, and one complete set

*Not designated by the consul-general.

wherewith to string a violone (the largest instrument of the bass-viol kind). If this task was finished satisfactorily, the workman was accepted as a brother member, and his former employer was, by contract, under obligation to give him a good recipe for making a bleaching lye. This was, therefore, given to him, but, as a matter of fact, none of the masters parted with their individual secret, only leaving it, after death, to their sons or next of kin as a most valuable pledge. All inquiries made on the subject lead one to suppose that at present potassa lye is generally used, yet it is not so long ago that the apothecary of the town had a book of recipes, consisting of the secret given to his sacred charge by the several string makers. Every likely drug was tried to improve the strings, a satisfactory trial resulting in the issue of another recipe.

Similarly, every violin maker of renown has his secret, *i. e.*, a composition of ingredients whereby to impart to his violins a superior varnish, and, if a true lover of his handicraft, he will never cease racking his brain to discover what is to him the *Stein der Weisen;* for the exquisite work of imparting to the violin that imperishable varnish, so perfectly pure and rich, showing satin-like the beauty of the wood beneath, as did the Cremona makers of old, such as Stradivarius, Guarnerius, Amati, Rugerius, and others, is at the present day a lost art.

String making was forbidden to anyone not a member of the union, not only in Markneukirchen, but throughout Saxony. The law on this point read as follows:

> Such persons (not union men) to be punished by the town council either (1) by taking from them and retaining such merchandise and tools of trade as are found in their possession, or (2) by a fine, or (3) by imprisonment.

Apprentices had to be duly registered at the beginning of their apprenticeship, and it is significant to note, in perusing the register of apprentices for a period of forty years (1781–1821), that eight out of ten were lads taught by their respective fathers, and the others—barring exceptional cases—were related to the employer. One of the unwritten paragraphs of the statutes of the union was the maxim, to take no apprentice from out of town. In such manner and through privilege granted by royal decree, virtually no person could ply the string-making trade beyond the town limits of Markneukirchen until the year 1878, which brought to Germany the *Gewerbe-Freiheit, i. e.*, an act of the Reichstag countermanding all prerogatives whereby certain trades enjoyed privileges that restricted outsiders in the pursuit of such privileged callings.

RAW MATERIAL SUPPLY.

About seventy-five years ago, Markneukirchen used Bohemian, Nether-Austrian, and Bavarian sheep gut, knowing of no other obtainable. Later on, Prussia furnished a fair supply. At present, neither of the countries above mentioned supplies raw material, because it is inferior to the imported material.

Prior to 1840, there was no export of catgut or gut strings from this district to the United States. (The name "catgut" is misleading, for all the catgut, so called, sold in the markets for stringing instruments and for medical purposes comes from the sheep.)

In the year 1840, when Markneukirchen suffered from a great conflagration, which consumed the entire town, one string maker left his native town, and, in the course of his travels in search of a livelihood, reached Copenhagen, Denmark. Having noticed large flocks of sheep, he bought some sheep guts, made strings of them, and found them far more suitable than those he had been working into strings at home. He contracted for large delivery and sold the dried raw material to his fellow citizens plying the string-making trade at Markneukirchen, which had been partly rebuilt and was quickly recovering from the fatal fire. From this time, dates the first shipments of strings intended for export to the United States, and the demand for the strings produced in Markneukirchen by American buyers gradually began to take such dimensions as to make the string-making community dependent on the American market, and, in due course, new establishments were started to meet this demand. This is proved beyond doubt by the fact that, whenever tariff or other equally disastrous troubles hampered commerce, thus necessitating a temporary discontinuance of orders from the American houses, gut strings have been a drug on the market.

The orders that followed the first exports accumulated to such a degree that for a number of years the raw material obtainable did not suffice to cover the demand for the product. From year to year, men of this town left for foreign parts in the endeavor to find additional sources from whence more raw material could be derived. Since the year 1853, England has furnished a good quality in large quantities, but excelling the English material, both in quality and whiteness, was the sheep gut coming from Russia, which, since the year 1861, has constituted the main source of supply.

In that year, another enterprising inhabitant of Markneukirchen (to whom I am indebted for most of this data) crossed Russia, even to its furthest eastern dominions, an undertaking which, at that time, was akin to audacity, and even at this period, is fraught with peril. But the result amply repaid for the hardships undergone on this exploring trip, for, dating from that year, Russia sent 75 per cent of all the dried sheep gut imported by Markneukirchen manufacturers. At present, Markneukirchen purchases annually from Russia about $175,000 to $200,000 worth of dried sheep gut; from England, about $60,000 to $75,000 worth; and from Denmark and all other countries, about $25,000 worth. Within the last decade, material for making musical strings has been brought from Spain, Bulgaria, Turkey, Java, Damascus, and Jerusalem. France fosters its own string-making trade and bids fair to be a strong competitor in cheap strings, for which, however, there are no bidders among the United States merchants. Still, the lookout for other fields, from whence a good quality of raw material may be had, continues. This is mainly due to the deterioration of the Russian sheep gut since the Russian

flock owners crossed the breeds of the Russian steppe sheep and the Spanish sheep. The crossing resulted in greatly improving the quality of wool of the Russian sheep, whereas the string product was injured. The intestine of the Russian steppe sheep, undergoing timely and careful treatment, yielded the great disideratum in a musical string—a symmetrically cylindric form, combined with a transparent, white color. This was much impaired by improving the flocks. All countries are therefore ransacked to meet the continuous demand for the best in color and quality. Nevertheless, we find that, although there is more than sufficient raw material, generally speaking, the percentage of first-quality strings resulting from its manufacture does not meet the demand. In view of this fact, it is curious to note that, with the cost of raw material and wages rising, the product is at present cheaper than ever—equally for high-class and inferior grades. The cause of the low grade of goods selling for a mere song is evident because (1) the demand for the cheap article decreased as the good quality came down in price, and (2) there always has been and are more second and third quality strings for sale than the trade requires.

The purchaser contracts with the breeder for all the sheep gut for at least one year; he has his cleaning establishment, as a rule, closely annexed to the slaughterhouse, and in person supervises the cleaning process, because, where this is done carelessly, the gut, though originally of good quality, can be used only for a middle or low quality of goods. Immediately after the killing of the sheep, the cleaner places the intestine on an inclined plane and, by aid of a knife blade, removes all foreign substances, grease, etc. This brooks no delay and must be performed while the carcass yet largely retains the body heat, for, while cooling, the foreign matter discolors the intestine. After cleaning, the intestine is wound on frames, left to dry in the open air, and when dry, is ready for shipment.

The intestine needed for a musical string must be from the lamb born in spring and slaughtered not later than October or November of the same year; those from the older sheep can be used only to make bass strings or for other minor purposes. The prices vary in accordance with the time of year during which the sheep was killed. Thus, the term "spring gut" denotes an equivalent to second quality, "summer gut" to first quality, and "fall gut" to third quality. The "spring gut" is only second choice, in spite of it being whiter and clearer in color than the "summer gut," because of a lack of tenacity, which is a requisite necessary, for instance, to make an E string. The G, D, and A strings made from it are excellent, both in quality and color. For these, the "spring gut" may be used, because, to make either of them, a large number of parts are taken, which does away with the necessity of the special strength of each part, as is required when only three or four parts are used. The "summer gut" is chiefly used to make a good E string. The "fall gut" stands last in choice of the three qualities, although the sheep is only 6 to 8 months old. The reason is, that the sheep has gained adipose tissue; so, also, has the intestine, and the result is a string uneven, not overtenacious, and of dark color.

In 1860, one *Schock* (sixty pieces) of "spring gut" cost $4.30; "summer gut," $6; "fall gut," $2.87. These prices prevailed until the year 1885. Since then, the prices have ranged as follows, per *Schock* (sixty pieces): "Spring gut," $3.57; "summer gut," $4.30; "fall gut," $2.15.

This reduction of nearly 25 per cent in the cost of the raw material was caused directly by workmen (string makers) who invested their savings in the purchase of an outfit of implements necessary to ply their trade on their own account. A plain outfit for one man costs about $75, machinery not being necessary. The former employee tried to supplant the quondam employer. In strong competition with each other, the price of musical strings went down the more suddenly and considerably, as prior to this change in affairs, the profit netted had been large, as, of course, the profit had to be fair, where, usually, the largest possible quantity of production did not satisfy the demand. Again, there was always a risk involved in the purchase of the material, which, as stated above, had to be bought by contract a year ahead, and, being a "cat-in-a-bag" purchase, it remained an open question whether adverse circumstances might not bring down the price of strings or lessen the demand. Besides, to this very day, the small maker is at times forced to offer his wares at ruinous prices to the merchants of Markneukirchen, who buy up all that the house industry produces to sell again to the foreign trade, when he has, perchance, finished goods without having a given order to complete. His means are small, usually he must pay cash for his raw material, an untoward expenditure compels him to dispose of his handiwork at any rate, and, it is claimed, the merchants here take advantage of those who must sell.

Since the year 1885, as above stated, the prices for raw material have remained stationary, but the drop in the price of the product kept step with the fall shown by the barometer of trade. The commercial troubles, coupled with the unsettled tariff question in the United States, played an active part in reducing the value of merchandise in like manner as the aforesaid causes reduced exportation.

The following figures give the value in United States currency of declared exports of musical instruments and strings from the Markneukirchen district for the years ending September 30—

1890	$1,160,421.65
1891	933,118.39
1892	886,417.01
1893	745,149.32
1894	459,244.59

THE MANUFACTURE OF GUT STRINGS.

The dried intestines are placed in earthen vats containing a potassa lye, where they are left twenty-four hours. After the lapse of this time, they are sufficiently soaked to permit unraveling, for, in spite of the bath, they still adhere. They are then put into a fresh potassa lye (the strength of the lye must be regulated according to the age of the sheep when killed, and must be weaker

for the intestine from the spring lamb than for that from the 6 to 9 months' old sheep). For eight days in succession, the bath is daily renewed without varying the strength of the lye. Beginning from the second day, the intestines undergo at various times of each day the most thorough cleaning by girls armed with the "sliming," or cleaning, iron. The intestine is nimbly drawn between the first finger, covered by a gutta-percha glove, and the thumb of the left hand, the sliming iron or ring being held with the thumb. By this act are removed the external (peritoneal) and mucous membranes, leaving only the muscular or fibrous membrane used to make a string. After the above-described proceeding has been attended to daily for three consecutive days, the intestine is sufficiently fluid to be split in two parts by being drawn across a blade of a sharpness exceeding that of a razor, firmly fastened to a handle, which, in turn, is affixed to an upright. Now, the sliming is continued—formerly by hand, as on the three preceding days—at present mostly by means of a machine, which is worked like a double-action clothes wringer. Here, the intestine is drawn over five upright blades, above which, securely fastened, is a 25-pound gutta-percha weight that bears down on the intestine with the required pressure. Four days more of this procedure suffice to get the intestine ready for the workman, experienced in sorting the parts according to quality, thickness, and length. It must be noted that there are two qualities resulting from one gut; for, on being split in two, the adhesive (inner) part is not even or smooth, and can therefore be used only for the inferior qualities. The number of parts needed to any one string depends on the thickness of the intestine; for instance, to make an E string from Russian sheep gut, four to six parts are necessary; from English sheep gut, three to four parts, because the Russian is finer than the English gut. At least three parts are taken to make a string. A violin A string is double the size of an E string; therefore, parts of double thickness are used, but the same number of parts that is taken to an E string; likewise, a D string, being three times as thick as the E string, fifteen to twenty parts of the intestine from the spring lamb are used when a fine-quality D is desired, for, as has already been said, the intestine from the sheep killed in its earliest stage is too weak for an E string, but answers very well where a large number of parts are joined.

The bass strings are made from the unsplit fibrous membrane—thirty to fifty entire (unsplit) parts are taken for a G, forty-five to seventy-five parts for a D, and sixty to ninety parts for an A bass string.

The following various proceedings, up to the time when the finished strings are placed in the sulphuring chamber, must be performed on one and the same day to prevent putrefaction, and another reason for not detaining the manufacture is to have the product retain the white color, because the delay of a day would turn it gray:

The parts selected to make one string are attached at both ends to hempen loops; one of these is fastened to one of two hooks in the center of a little wheel, stationed at one end of the inner part of a frame, the intestinal parts twisted round a fixed peg at the other end of the frame opposite the wheel

and the second loop brought back to the wheel to be attached to the second hook in the center of the wheel. The latter is now rapidly revolved by a connecting multiplying fly wheel and the parts thus twisted into a string. The moisture, brought to the surface by the twisting, is removed and the strings are taken from the frame and placed in an air-tight sulphuring receptacle, where they are left over night. On the following morning, they are exposed to the air, which furthers the bleaching process, till nearly dry, when they are again slightly moistened and replaced in the sulphur bath. This *modus operandi* lasts from four to eight days, the length of time depending on the weather. If it be clear and sunshiny, less sulphuring is required. The best and whitest string, aside from the result of the sulphurous acid gases, is that which has had frequent exposure to the air in clear, balmy weather. Excessive bleaching by means of sulphur heightens the whiteness at the expense of the quality. The strings must never be exposed to the sun if the heat resulting exceeds a moderate temperature of, say, 75° F. After the bleaching, the string is subjected to a rubbing with pumice stone, to bring it down to the correct size, while it removes, at the same time, any existing inequalities. The requisite polish is mainly due to frequent wipings with olive oil. Following this, they are again left to dry in the air, to be then cut, rolled, and assorted according to color. Thirty strings of the same whiteness and size are made up into a bundle.

The last important work is to grade the bundles, styling them first, second, or third quality. The strings are made in sizes varying from 1½ to 6 "zug" (one "zug" is equal in length to a full-sized violin), in compliance with the buyer's orders. From the time that the dried intestine is first placed in the lye to the time when the finished strings are assorted and ready for the market, eighteen to twenty days elapse. During this period, not a day passes where the intestine or the partly finished string is not subjected to manipulation of some sort.

It is generally supposed that a musical string loses both in color and quality if kept in stock for a comparatively short period, but, while the color is impaired in the course of time, the quality does not deteriorate, provided the strings are stored in hermetically closed cases in an even and dry atmosphere.

ITALIAN STRINGS.

The Italian string is known as the best, and is best, because it is made from the entire (unsplit) fresh Italian sheep gut, which is quite strong in spite of its thinness, and is therefore peculiarly adapted to be formed unsplit into the most important string of all—the violin E string. Another reason accounting for the high quality of the Italian string is, that it is made under the most favorable climatic conditions, whereas, comparing the Italian product with the German, in reference to whiteness and general workmanship, the former invariably takes last place.

The large demand for the Italian strings results in the sale of probably ten times as many Italian strings as Italy is able to produce. Markneu-

kirchen turns out quite a lot of "Italian" strings, and naturally especial care is taken in their manufacture to make them equal to the best; they are put up in Italian fashion, and, at times, sold as Padua strings—Padua being the Italian city where musical strings are chiefly made. I am assured, on good authority, that Italian merchants buy strings in Markneukirchen that partly find their way back to Germany as the "only original."

THE INDUSTRY IN THE UNITED STATES.

The string-making industry in the United States is conspicuous by its absence, at least where the manufacture of a passably good violin string is concerned. Attempts have been made, but they never fulfilled the hopes of those who brought the undertaking to life, nor was the want of skilled labor the cause of the nonsuccess, for at various periods string makers, hired by Americans, have left Markneukirchen for the land that was formerly, to every German, the "El Dorado"—the place where wealth might be soon and easily acquired. These men have mostly applied their trade in the United States by making gut strings for coarser purposes.

There are a number of causes cooperating to prevent the manufacture of strings for musical instruments in the United States. From all the information I could gather, it appears that the intestine from the American sheep is not suitable material, because, from the spring lamb, it is too weak, and from the summer sheep, shows a wart-like growth every 3 or 4 feet, which completely unfits it for use. Another reason is the excessive heat, which causes the intestine to ferment before it has been through the prescribed number of lye baths. But even supposing it to have come from the baths unscathed, the atmospheric heat unduly hastens the drying process and the result is a feathery string. Even in Germany, where the temperature is always more moderate than in the United States, it happens that the intestines are spoiled owing to the heat. Another vital point is the pure well water necessary for the cleaning, which must be free of deleterious mineral or other substances. Perhaps, the most cogent reason why an article that can enter the United States free of duty (where the value of said article consists for the most part in the expense of making it) can not be made there, is the small amount of wages paid to the hands in Germany. Until the year 1870, it was customary to keep the employees in board and lodging; the girls received, besides, a payment of $15 to $18 per annum and the men $30 to $40 per annum. About twenty years ago, this system of giving board and lodging was done away with; since that time, and up to the present, the girls are paid, respectively, $1.43, $1.79, and $2.15 for a week's (seventy-two hours) work, $2.15 being paid to the good hands only. The workman's weekly pay ranges between $3.57 and $5, provided he is a first-class worker.

OSCRA GOTTSCHALK,
Consular Agent.

MARKNEUKIRCHEN, *December 21, 1894.*

MOVEMENT OF POPULATION IN FRANCE.

The annual report on the vital statistics of France, which has just been issued from the ministries of Commerce and Industry and of Posts and Telegraphs, contains a very interesting review of the movement of population in this country during the year 1893.

The following shows the number of marriages, divorces, births, and deaths registered during 1893: Marriages, 287,294; divorces, 6,184; births, 874,672; deaths, 867,526. For the first time since 1889, the number of births registered exceeded the number of deaths. The excess was small, indeed, being but 7,146, but, as compared with an average annual excess of deaths over births during the three preceding years of 22,997, it is regarded as very gratifying. The number of births in 1893 was 18,825 greater, and the number of deaths 8,362 less, than in 1892. The number of marriages during the year was 3,025 less than during the preceding year, but was 7,318 above the average (287,294) for the decade 1881–1890.

The following table is a résumé of the movement of the population of France since 1881:

Year.	Marriages.	Divorces.	Births.	Deaths	Excess of births.	Excess of deaths.
1881	282,079	.....	937,057	828,828	108,229	.....
1882	281,060	.....	935,566	838,539	97,027	.....
1883	284,519	.....	937,944	841,141	96,803	.....
1884	289,555	1,657	937,758	858,784	78,974	.....
1885	283,170	4,277	924,558	836,897	87,661	.....
1886	283,208	2,950	912,838	860,222	52,616	.....
1887	277,060	3,636	899,333	842,797	56,536	.....
1888	276,848	4,708	882,639	837,867	44,772	.....
1889	272,934	4,786	880,579	794,933	85,646	.....
1890	269,332	5,457	838,059	876,505	.....	38,446
1891	285,458	5,752	866,377	876,882	.....	10,505
1892	290,319	5,772	855,847	875,888	.....	20,041
1893	287,294	6,184	874,672	867,526	7,146	.....

An analysis of the statistics is embraced in the report, and reveals some interesting facts. The number of marriages in 1893 was 7.56 per 1,000 inhabitants, the average being the smallest (5.6 per 1,000 inhabitants) in the mountainous regions, which furnish the largest percentage of emigrants. The proportion of marriages is 50 per cent larger—say, 8 to 9 per 1,000 inhabitants—in the center of France and in the departments containing the large cities, while the greatest ratio of marriages to population—9.3 per 1,000 inhabitants—is in the department of the Seine (Paris).

The number of divorces increased from 5,772 in 1892 to 6,184 in 1893, the increase being especially marked in Paris and in the northern departments. The number of divorces throughout France was 81 in every 100,000

married couples. In Paris, the record shows 272 per 100,000, while only 5 and 6 divorces per 100,000 were granted, respectively, in the mountainous departments of the Haute-Savoie and the Hautes-Alpes. In the department of Lozère, situated in the south of France, with a population of 135,527, no divorce was granted in 1893.

The total number of births, while 18,825 greater than in 1892, and larger than in any year since 1889, was smaller than in any year from 1881 to 1889 inclusive, and smaller by 33,961, or 0.037 per cent, than the average (908,633) for the ten years 1881–1890 inclusive. The increase in 1893 over the preceding year is quite generally distributed, seventy-one of the eighty-eight departments reporting an augmentation. The birth rate for the whole of France was 22.9 per 1,000 inhabitants, varying from 14.9 per 1,000 in the department of Gers to 33.5 per 1,000 in the department of Finistère. In the department of the Seine (Paris), the birth rate was 25 per 1,000. The number of illegitimate children born is stated at 76,562—the largest yet recorded in France. This is in the proportion of 8.8 per 100 births. "The development of the great cities," says the report, "and the gradual depopulation of certain rural districts, explain this increase." In the departments in which the cities of Paris, Lyons, Marseilles, and Bordeaux are situated, and in the north and northwest, the illegitimate births are most frequent, and in Brittany, in the departments of Languedoc and Gascogne, in the mountainous regions of the Alps and Pyrenees, and in the central group, the fewest. The proportion of illegitimate to total births in the department of the Seine (Paris) is 24.3 per 100. Of the total births in France in 1893, 446,957 were males, and 427,715 females.

The mortality for 1893—total 867,526, of which 449,682 were males and 417,844 females—was 8,362 less than in 1892, but more than 20,000 greater than the average of the decennial period 1881–1890. The death rate was 22.8 per 1,000 inhabitants. In thirty-seven of the eighty-eight departments, there was an increase of mortality over the preceding year. The smallest death rate was in the center of France (16 to 19 per 1,000 inhabitants); the largest, in the Mediterranean region (Bouches-du-Rhône, 28 per 1,000) and in the section contiguous to the English Channel (Seine-Inférieure, 28 per 1,000). In the department of the Seine (Paris), the death rate was 23.5 per 1,000.

The net increase of the population established by the excess of births over deaths was 7,146, the male population showing a loss of 2,725 and the female a gain of 9,871. In thirty-six departments, there was a net excess of births over deaths of 36,593, and in fifty-one departments, a net excess of deaths over births of 29,447.

The increase in the number of marriages since the generation which followed immediately the years 1870–71 have arrived at the marriageable age, justifies the hope of a renewal of the French blood, languishing during the last twenty years, by reason of the absence of the young men lost during the Franco-German war. It is thus that the year 1893 commences by giving an excess of 7,146 births after three years of deficits.

The facts established by a summary of the movements of the population in 1893 show an amelioration in the demographic conditions of the French population. Everything appears to indicate that the results for 1894 will be still more favorable. The returns already obtained, indeed, from Paris and other large cities permit us to make this prediction.

SAMUEL E. MORSS,
Consul-General.

PARIS, *January 23, 1895.*

EXPORTS DECLARED FOR THE UNITED STATES.

GERMANY.

BERLIN CONSULATE-GENERAL.

[Report by Consul-General de Kay.]

The attention of the consul-general at Berlin having been called to his failure to forward returns of declared exports, as directed by Department circular of January 20, 1894 (see CONSULAR REPORTS No. 168, p. 83), the returns for the fourth quarter of 1894 were immediately forwarded, and were printed in CONSULAR REPORTS No. 176 (May, 1895). The returns for the second and third quarters were subsequently received, and are, herewith, given to complete the returns for Germany. The present consul-general at Berlin, who entered upon the duties of his office in July, 1894, five months after the issuance of the circular, says that there is no record of the receipt of the circular at the consulate-general.

Exports declared from the Berlin consulate-general.

Articles.	Quarter ending—	
	June 30, 1894.	Sept. 30, 1894.
Annaberg.		
Aluminium	$130.47	.....
Baskets	416.11	$222.46
Brushes	1,438.08	745.71
Buttons	.....	202.15
Button covers	548.08	.....
Colors	986.38	1,541.90
Corks	.....	943.34
Laces and embroideries	3,573.23	1,614.68
Lace curtains	3,910.27	27,619.87
Leather gloves	70,381.47	91,460.10
Machinery	766.52	.....
Musical goods	188.31	.....
Musical instruments	.....	255.42
Paper ware	12,811.15	29,424.21
Tinsel	153.63	.....
Toys and wooden ware	.....	12,052.51
Toys	9,821.64	.....
Trimmings	160,485.53	264,575.69
Total	265,610.87	430,658.04
Total for same quarter in 1893	379,768.50	351,511.70
Increase	.....	79,146.34
Decrease	114,157.63	.....

Exports declared from the Berlin consulate-general—Continued.

Articles.	Quarter ending—	
	June 30, 1894.	Sept. 30, 1894.
Berlin.		
Albums	$27,795.00	$48,181.60
Antiquities	.....	9,664.74
Artificial flowers	.....	2,313.37
Astrakhans	.....	1,029.88
Books and printed matter	17,375.00	11,592.31
Buttons	.....	3,287.38
Brushes and bristles	.....	727.27
Chemicals and drugs	73,059.00	80,755.22
China	9,932.00	22,626.28
Chromos and photographs	23,000.00	26,106.48
Colors, oil	54,007.00	63,195.50
Dress and piece goods and velvets	36,416.00	28,298.22
Electric goods	3,781.00	2,272.69
Fancy feathers	13,340.00	17,322.82
Fancy and sundries	91,837.00	.....
Glassware	7,380.00	13,930.57
Gloves and glove leather	55,438.00	43,909.88
Glucose and dextrine	18,581.00	16,724.20
Hairpins	2,287.00	.....
Hides and skins	18,595.00	37,304.63
Human hair	1,004.00	3,078.66
Instruments:		
Musical	7,797.00	17,342.60
Scientific	15,675.00	20,020.06
Ivory goods	.....	1,177.59
Jet goods	.....	1,272.63
Lanoline	7,066.00	1,358.61
Leather:		
Goods	1,982.00	3,627.33
Glue	3,324.00	2,257.66
Linen goods	14,311.00	40,064.20
Lithographs	3,088.00	.....
Machinery and metals	16,221.00	12,131.44
Mica	.....	998.30
Paintings	.....	7,535.95
Paper ware	51,684.00	73,762.34
Perfumeries	.....	755.33
Rags	25,370.00	31,985.76
Ready-made clothing	32,249.00	227,134.78
Shawls and mufflers	5,675.00	6,110.42
Sheep guts and rennets	27,838.00	42,691.44
Toys	.....	14,813.02
Trimmings	12,411.00	31,475.42
Umbrella sticks, etc	1,725.00	3,571.68
Wine and liquors	1,991.00	4,481.71
Wool	3,610.00	10,026.75
Yarn	23,661.00	17,080.76
Zinc goods	.....	2,161.04
Sundries	.....	91,713.87
Total	712,486.00	1,097,872.39
Total for same quarter in 1893	1,304,522.00	1,119,713.55
Decrease	592,036.00	21,841.16
Bremen.		
Animals	.....	4,607.86
Birds	1,413.90	.....

Exports declared from the Berlin consulate-general—Continued.

Articles.	Quarter ending— June 30, 1894.	Sept. 30, 1894.
Bremen—Continued.		
Books and sheet music	$6,662.81	$4,818.07
Cement	22,164.94	24,945.02
Coffee	8,270.26	.....
Drugs and chemicals	5,254.80	1,905.67
Glassware	7,358.19	11,741.37
Rice and rice flour	395,533.14	442,513.40
Sundries	4,950.46	10,269.26
Tobacco	105,627.26	39,073.41
Whisky and brandy	252,905.94	.....
Willow (straw ware)	20,695.28	22,102.40
Wine, beer, and liquors	36,397.51	32,676.33
Wool	.....	13,408.92
Wool tares	3,333.43	6,501.45
Woolen yarn	2,934.54	3,951 51
Total	873,522,46	618,514.67
Total for same quarter in 1893	698,321.13	417,459.56
Increase	175,201.33	201,055.11
Breslau.		
Arsenic	3,145.27	5,138.60
Brushes	.....	7,420.71
Cellulose	2,578.43	7,739.06
Chemicals	6,486.03	7,271.90
Chromos and books	6,698.54	4,955.40
Fancy paper	2,777.75	1,041.42
Glassware	2,672.83	12,991.62
Glove leather	10,653.64	5,771.53
Glue	3,952.75	379.28
Leather gloves	67,449.13	163,606.66
Linen and cotton goods	75,044.07	64,538.62
Liquors	753.99	460.23
Miscellaneous	.....	4,894.21
Paper frames	1,376.73	2,750.91
Porcelain ware	30,793.06	64,481.33
Rennet powder	.....	291.55
Sago	.....	161.18
Silk mixed goods	86,142.04	57,804.94
Spelter	1,004.66	2,333.74
Stone pipes	775.05	1,543.55
Straw (bottle covers)	.....	759.59
Tin foil	2,940.80	6,785.62
Toys	153.89	4,158.04
Willows	.....	1,749.63
Woolen goods	7,095.17	4,271.91
Zinc dust	1,247.56	.....
Sundries	2,471.70	.....
Total	316,213.03	432,701.33
Total for same quarter in 1893	671,127.65	572,513.05
Decrease	354,914.56	116,488.24
Brunswick.		
Asphalt	2,030.64	6,678.28
Birds	2,452.71	5,864.32
Books and printed matter	6,658.90	4,319.46
Cement	7,952.19	1,434.19
Chemicals and colors	60,456.65	30,384.75

Exports declared from the Berlin consulate-general—Continued.

Articles.	Quarter ending— June 30, 1894	Sept. 30, 1894.
Brunswick—Continued.		
Glass	$13,073.83	$11,045.58
Gloves, leather	25,590.50	97,048.54
Manure salt	7,054.58	5,269.60
Mineral water	892.50	591.91
Muriate of potash	25,004.49	29,290.66
Paper	.....	896.78
Prepared vegetables	288.75	3,355.56
Sausages	580.89	626.18
Sugar:		
Raw	159,671.68	420,054.05
Refined	5,513.51	.....
Sundries	1,571.92	2,772.93
Total	318,793.74	619,532.79
Total for same quarter in 1893	183,556.31	670,594.75
Increase	135,237.43	.....
Decrease	.....	51,061.96
Chemnitz.		
Card clothing	1,314.38	.....
Gloves:		
Cotton	39,374.16	1,075,129.53
Silk	41,415.58	27,360.04
Woolen	33,308.10	15,513.76
Linen goods	1,235.42	.....
Woolen goods	3,899.95	.....
Hosiery:		
Cotton	613,021.41	26,024.69
Silk	11,135.99	91,063.94
Woolen	8,110.45	9,892.58
Machinery	8,195.40	23,341.38
Miscellaneous	.....	19,590.00
Sundries	5,077.03	.....
Mufflers	12,610.60	18,202.74
Toys	4,747.38	14,372.82
Umbrella stuff	3,430.74	.....
Underwear	37,478.40	6,942.18
Yarn	1,100.32	.....
Upholstery goods	23,301.10	13,650.52
Total	828,285.41	1,341,084.18
Total for same quarter in 1893	1,501,740.93	1,225,400.90
Increase	.....	115,683.28
Decrease	673,455.52	.....
Glauchau.		
Brushes	.....	390.94
Buttons	201.18	.....
Buttons, ivory	.....	703.68
China	14,403.86	10,357.58
Dress goods	308,277.68	614,665.87
Embroideries	.....	49.08
Gloves, kid	10,646.99	21,434.68
Hosiery:		
Cotton	50,159.23	61,614.26
Silk	3,000.20	4,180.11
Woolen	381.70	105.91
Linen goods	628.88	883.97
Stoneware	.....	124.78

Exports declared from the Berlin consulate-general—Continued.

Articles.	Quarter ending— June 30, 1894.	Sept. 30, 1893.
Glauchau—Continued.		
Sugar of lead	.....	$487.35
Underwear	.....	1,453.93
Cotton	$495.00	.....
Silk	146.77	.....
Woolen	38.63	.....
Yarn	785.05	213.09
Total	389,171.17	716,604 63
Total for same quarter in 1893	484,591.41	518,935.73
Increase	.....	197,668.90
Decrease	95,420.24	.....
Guben.		
Linen and half linen goods, woolen cloth, glassware, ozocerite, toys, carpets, china ware, and earthenware	119,076.69	175,954.32
Total for same quarter in 1893	252,895.55	236,388.66
Decrease	133,818.86	60,434.34
Hamburg.		
Animals	6,135.64	4,189.68
Baskets and cane ware	47,783.31	44,349.73
Beet, raw, and grape sugar	73,314.31	.....
Beet, raw sugar	.....	429,094.41
Bristles and feathers	8,772.94	5,234.81
Canned meat, fish	.....	4,403.11
Cement	189,923.50	166,247.76
Chemicals and colors (oil)	131,349.37	.....
Chemicals, drugs	.....	101,113.59
Coffee	332,748.91	346,643.99
Diamonds, jewelry	517.88	272.83
Dried fruits	.....	1,699.40
Eggs and albumen	821.68	1,096.03
Fancy goods	1,479.71	2,923.79
Grain, plants, and seeds	41,763.18	.....
Grains, seeds	.....	46,634.35
Gutta-percha :		
Crude	10,926.51	17,377.65
Paper	7,067.16	.....
Manufactured	.....	5,839.57
Hair, human, and animal	4,597.03	3,737.53
Haircloth	14,678.98	1,333.34
Herrings, etc	447.12	2,163.30
India rubber :		
Crude	50,475.57	71,511.95
Manufactured	11,542.52	6,035.22
Ivory, raw	38,545.70	.....
Leather	.....	378.65
Leather goods	.....	345.32
Liquors, wines, etc	10,492.35	8,388.90
Metal :		
Goods	5,842.10	3,080.76
Raw	.....	313.11
Miscellaneous	13,095.12	17,740.95
Musical and scientific instruments	1,280.96	1,974.94
Paper	4,719.21	5,068.19
Manufactures	3,402.74	384.12
Rags, paper waste	21,819.83	31,779.23

Exports declared from the Berlin consulate-general—Continued.

Articles.	Quarter ending— June 30, 1894.	Sept. 30, 1894.
Hamburg—Continued.		
Raw hides and skins	$112,878.53	$70,149.30
Rennets and guts	233.29	7,291.17
Salt	239.33	1,339.17
Silk goods	1,913.95	.....
Tobacco, raw	1,937.07	578.49
Wood	2,535.47	1,925.06
Wool	5,809.86	5,427.95
Total	1,159,090.83	1,418,067.35
Total for same quarter in 1893	1,923,964.42	3,563,464.75
Decrease	746,873.59	2,145,397.40
Hanover.		
Ammunition	2,488.62	474.82
Antimony	1,043.52	1,281.26
Asphalt	15,246.96	11,787.32
Birds, etc	2,191.84	9,191.16
Books and printed matter	982.30	.....
Cement	94,609.16	70,132.08
Chemicals	12,250.03	13,475.83
Earthenware	1,521.89	2,968.20
Feathers and downs	1,378.76	4,747.75
Glass	2,704.64	1,646.77
Gloves, leather	.....	3,590.85
Grease	19,399.20	14,722.26
Hams and sausages	242.15	.....
Hides	.....	2,299.08
Instruments, scientific	797.62	470.60
Lampblack, colors, etc	4,896.76	1,539.88
Lithography	8,722.40	4,493.52
Linen goods	1,185.36	2,150.22
Matches	462.96	1,002.22
Miscellaneous	926.75	1,128.32
Rags, etc	29,818.53	33,496.26
Pipes, clay	595.45	1,112.28
Rubber goods	9,060.32	11,791.42
Silks	.....	10,053.26
Silk and cotton velvets	12,325.90	.....
Straw goods	1,674.72	2,354.30
Velvets	.....	1,785.38
Wood pulp	.....	6,626.30
Wolfram	228.07	.....
Total	224,753.91	214,321.34
Total for same quarter in 1893	368,633.30	196,261.76
Increase	.....	18,059.58
Decrease	143,879.39	.....
Leipsic.		
Books and newspapers	95,952.10	105,999.90
Bristles	121,856.51	227,134.17
China ware	8,480.51	14,818.63
Chromos and paper ware	29,220.50	5,523.47
Chemica's, drugs, etc	69,634.10	72,752.79
Fruit juice	5,495.54	2,795.58
Furs and skins	531,008.05	362,413.87
Instruments, musical and surgical	15,017.73	24,208.49
Leather gloves and leather	27,809.12	52,692.29

Exports declared from the Berlin consulate-general—Continued.

Articles.	Quarter ending— June 30, 1894.	Sept. 30, 1894.
Leipsic—Continued.		
Machinery	$8,611.22	$19,920.11
Music, printed	20,508.03	16,101.98
Woolen goods	161,143.42	259,784.87
Sundries	5,150.89	6,053.39
Total	1,099,887.72	1,170,199.54
Total for same quarter in 1893	1,220,306.25	817,594.49
Increase		352,605.05
Decrease	120,418.53	
Magdeburg.		
Accordions	761.60	2,491.14
Bichromate of potash		8,062.82
Bleaching powder		654.81
Caps and detonators	3,743.57	3,581.71
Cherries, juice		24,202.72
Chicory	1,965.54	
Chocolate	1,586.96	
Chlorate of potash	4,559.90	4,007.92
Chloride of magnesium	528.59	307.32
Dental materials	3,507.88	
Dextrine		1,047.20
Earthenware, etc	844.31	2,150.72
Gelatin	233.46	885.72
Kainite	121,811.34	112,017.56
Kieserite	1,690.57	4,205.48
Lambskins		971.85
Leather gloves		75,062.78
Machinery	16,459.24	397.52
Manure salt	44,964.96	48,143.19
Muriate of potash	278,191.80	249,392.32
Saccharine	17,414.46	4,429.18
Seeds		1,054.46
Sauerkraut		5,532.85
Sugar	152,339.98	299,038.71
Sugar of lead		1,096.64
Sulphate of potash	36,182.81	37,665.02
Total	686,786.97	886,219.64
Total for same quarter in 1893	694,752.59	669,709.34
Increase		116,510.30
Decrease	7,965.62	
Plauen.		
Cotton laces and embroideries	275,224.83	241,489.95
Cotton stuffs	5,261.21	9,906.78
Carpets and covers	3,669.80	2,982.23
Embroideries:		
Cotton	5,595.50	23,501.32
Linen	2,397.62	12,875.61
Silk		6,227.32
Hosiery:		
Cotton	15,524.43	36,614.53
Woolen	644.70	3,591.79
Lace curtains		6,041.65
Linen laces	152.05	1,116.63
Miscellaneous	927.36	635.52
Mufflers	2,123.94	

Exports declared from the Berlin consulate-general—Continued.

Articles.	Quarter ending— June 30, 1894.	Sept. 30, 1894.
Plauen—Continued.		
Musical instruments	$115,610.32	$152,913.87
Porcelain	4,177.93	.....
Shell goods	3,379.70	409.64
Silk laces	7,771.65	86,202.78
Woolens:		
Dress goods	689,083.46	148,172.50
Shawls	25,553.83	1,829.04
Wool	3,119.01	.....
Total	594,139.19	734,515.16
Total for same quarter in 1893	829,221.61	933,928.52
Decrease	335,082.42	199,413.36
Stettin.		
Amber goods	25,239.34	21,597.39
Arsenic	1,825.68	1,472.36
Animals	1,011.50	.....
Blacking (shoe)	.....	351.07
Books	213.19	1,155.16
Bristles	38,620.74	25,829.40
Candles	.....	163.78
Cellulose	5,860.34	2,117.57
Cement	96,647.90	100,412.62
Dextrine	7,054.71	3,991.99
Dried herbs	.....	10,208.52
Fire clay goods	1,471.17	.....
Farine	.....	4,692.96
Ferrocyanide of soda	.....	1,950.56
Glucose	.....	157.24
Hemp	2,858.86	2,421.73
Herring	769.26	6,387.14
Horsehair	494.33	8,107.56
Indigo	3,937.24	.....
Kegs (empty)	.....	269.44
Lead (pig)	.....	19,675.41
Machinery	.....	1,055.76
Miscellaneous	540.12	.....
Ozocerite	2,011.54	9,688.19
Parchment paper	4,048.53	5,633.17
Platinum	.....	8,123.21
Potash	1,559.49	4,557.58
Rags, etc	22,945.00	46,736.89
Rape oil	3,315.20	1,976.42
Rubber shoes	3,938.73	7,482.35
Seeds	25,743.30	34,045.20
Sugar	.....	24,993.35
Wax	402.38	536.29
Zinc	2,109.25	.....
Total	252,617.80	355,806.31
Total for same quarter in 1893	478,331.93	275,378.75
Increase	.....	80,427.56
Decrease	225,714.13	.....
Grand total	7,840,435.85	10,212,051.69
Grand total for same quarter in 1893	10,991,733.58	11,568,855.60
Decrease	3,151,297.73	1,356,803.91

THE UNITED KINGDOM.

[For the quarter ending December 31, 1894.—Report by Consul-General Collins.]

Belfast.

Beer, ale, stout, etc	$15,429.49
Cotton manufactures	177,644.54
Hats and felt	2,351.74
Hemp, flax, tow, etc	194,515.28
Linens	1,960,940.81
Machinery	2,279.24
Seeds, plants, etc	10,177.49
Skins, hides, furs, etc	2,735.33
Stationery, etc	6,422.79
Thread	73,376.35
Unions	68,572.62
Wines and spirits	17,893.77
All other articles	5,712.97
Total	2,538,052.42
Total for same quarter in 1893	1,486,487.99
Increase	1,051,564.43

Birmingham.

Bricks and tiles	17,409.44
Buttons	13,962.21
Carpets and rugs	13,720.16
Cotton manufactures	6,192.50
Cycles	22,957.49
Drugs, chemicals, dyes, etc	62,133.45
Glass, china, and earthen ware	52,983.14
Glue and gelatin	1,030.72
Hardware	226,225.36
Metals:	
Iron and steel and manufactures	160,468.31
Other	32,243.30
Preserves, pickles, etc	6,602.05
Saddlery	43,463.16
Skins, hides, furs, etc	85,022.92
Unions	3,221.96
All other articles	17,081.63
Total	764,717.80
Total for same quarter in 1893	605,379.13
Increase	159,338.67

Bradford.

Card clothing	25,415.08
Carpets and rugs	27,663.65
Clocks and watches	289.65
Cotton:	
Raw	7,233.55
Manufactures	198,084.78
Drugs, chemicals, dyes, etc	1,544.35
Grease, etc	1,300.52
Leather, etc	9,765.58
Machinery	101,357.05
Metals (iron and steel and manufactures)	51,125.73
Paper and paper hangings	2,415.52
Paper stock	472.00
Scientific instruments	2,948.68
Silks	56,129.79
Stuff goods	$1,046,041.65
Wearing apparel, etc	2,138.70
Wool, camel, and other hair	552,988.03
Woolens	1,484,184.94
Yarn	164,293.08
All other articles	1,787.22
Total	3,737,179.55
Total for same quarter in 1893	1,130,472.75
Increase	2,606,726.80

Bristol.

Bricks and tiles	2,051.77
Cocoa and chocolate	8,174.38
Drugs, chemicals, dyes, etc	14,561.24
Elastic	2,540.14
Fuller's earth	2,117.60
Glue and gelatin	5,208.43
Linseed	213,319.03
Metals (other than iron and steel)	4,693.66
Ores (iron, etc.)	2,226.86
Rope, etc	1,298.56
Skins, hides, furs, etc	14,052.06
Tin plates, black plate, etc	12,090.88
Wines and spirits	1,555.11
Woolens	5,392.88
All other articles	6,086.04
Total	295,368.64
Total for same quarter in 1893	79,039.60
Increase	216,329.04

Cardiff.

Bricks and tiles	863.15
Coal and coke	5,890.28
Machinery	500.03
Metals (iron and steel and manufactures)	1,192.29
Rope, etc	1,866.26
Tin	10,905.19
Tin plates, black plate, etc	201,860.73
Total	223,077.93
Total for same quarter in 1893	278,969.13
Decrease	55,891.20

Cork.

Animals	10.21
Drugs, chemicals, dyes, etc	734.81
Feathers	2,070.13
Fish	19,313.57
Fruits, nuts, and vegetables	142.33
Seeds, plants, etc	654.53
Skins, hides, furs, etc	3,263.57
Wines and spirits	2,562.93
Total	28,752.08
Total for same quarter in 1893	60,161.06
Decrease	31,408.98

Dublin.

Beer, ale, stout, etc	$144,234.12
Books, prints, engravings, etc	265.93
Feathers	1,920.03
Gloves, hosiery, etc	122.63
Glue and gelatin	5,686.99
Provisions (cheese, bacon, etc.)	14,166.26
Sausage casings	1,338.28
Silks	583.98
Skins, hides, furs, etc	3,861.54
Wines and spirits	1,695.30
Wool, camel, and other hair	6,207.81
Woolens	9,458.75
All other articles	2,003.93
Total	191,545.55
Total for same quarter in 1893	149,826.18
Increase	41,719.37

Dundee.

Bags and bagging	24,561.84
Blacking	357.80
Burlaps	1,206,377.76
Carpets and rugs	23,129.32
Cotton manufactures	5,328.50
Fish	9,641.85
Fruits, nuts, and vegetables	26,173.01
Glass, china, and earthen ware	7,475.63
Hemp, flax, tow, etc	19,815.64
Jute	42,445.68
Leather, etc	27,411.11
Linens	474,855.67
Linseed	49,555.36
Machinery	1,179.16
Ores, iron, etc	1,136.00
Paper and paper hangings	9,244.22
Paper stock	14,145.31
Preserves, pickles, etc	10,908.83
Provisions (cheese, bacon, etc.)	144.30
Scientific and other instruments	131.26
Seeds, plants, etc	140.72
Silks	234.33
Skins, hides, furs, etc	162.00
Stone (marble, granite, etc.)	61,542.24
Wines and spirits	6,333.68
Wool, camel, and other hair	21,543.16
Woolens	510.41
Yarn	36,003.52
All other articles	90,071.73
Total	2,170,560.04
Total for same quarter in 1893	1,555,619.77
Increase	614,950.27

Dunfermline.

Cotton manufactures	28,548,27
Floor cloth	30,288.75
Linens	480,681.16
All other articles	397.16
Total	539,915.34
Total for same quarter in 1893	275,697.46
Increase	264,217.88

Falmouth.

China clay, etc	$77,481.72
Drugs, chemicals, dyes, etc	1,406.41
Total	78,888.13
Total for same quarter in 1893	65,985.81
Increase	12,903.32

Glasgow.

Animals	897.00
Beer, ale, stout, etc	2 271.31
Books, prints, engravings, etc	43,199.57
Carpets and rugs	15,130.04
Coal and coke	450.96
Colors, paints, and varnishes	7,552.70
Cotton:	
Raw	13,238.78
Manufactures	519,399.53
Drugs, chemicals, dyes, etc	192,184.35
Fish	69,867.12
Fruits, nuts, and vegetables	24,325.88
Glass, china, and earthen ware	22,264.04
Hats and felt	2,924.50
Hemp, flax, tow, etc	100,637.11
Lace	26,500.23
Linens	21,654.48
Machinery	27,045.81
Metals (iron and steel and manufactures)	11,653.49
Paper and paper hangings	13,084.88
Paper stock	7,786.34
Pitch and tar	16,697.05
Provisions (cheese, bacon, etc.)	7,122.00
Silks	61,669.85
Skins, hides, furs, etc	24,871.08
Stone (marble, granite, etc.)	1,523.50
Sugar	20,720.86
Thread	64,637.22
Unions	56,114.78
Wines and spirits	26,906.97
Wool, camel, and other hair	88,613.59
Woolens	13,393.30
All other articles	26,337.29
Total	1,528,615.61
Total for same quarter in 1893	1,062,281.66
Increase	466,333.95

Huddersfield.

Card clothing	23,634.33
Cotton manufactures	27,614.65
Drugs, chemicals, dyes, etc	43,339.49
Fuller's earth	2,931.18
Grease, etc	2,488.44
Linens	2,867.52
Machinery	10,813.37
Metals (iron and steel and manufactures)	399.28
Silks	13,322.91
Stationery, etc	3,526.97
Thread	32,627.62
Unions	660.82
Wool, camel, and other hair	19,402.12

Woolens	$569,357.30
Total	752,986.00
Total for same quarter in 1893	327,182.90
Increase	425,703.10

Hull.

Animals	107.30
Colors, paints, and varnishes	4,698.36
Drugs, chemicals, dyes, etc	11,908.91
Fruits, nuts, and vegetables	12,162.78
Hair, cattle, etc	815.10
Hemp, flax, tow, etc	4,824.27
Leather, etc	995.64
Linseed	727,666.24
Metals:	
Iron and steel and manufactures	69.83
Other	155.84
Oils	2,447.41
Rubber (raw)	1,369.93
Saddlery	367.54
Stone (marble, granite, etc.)	2,659.73
Wool, camel, and other hair	9,190.72
All other articles	98.70
Total	779,538.30
Total for same quarter in 1893	31,143.14
Increase	748,395.16

Leeds.

Confectionery	2,761.15
Drugs, chemicals, dyes, etc	5,592.76
Glass, china, and earthen ware	19,484.92
Leather, etc	4,666.04
Linens	2,526.00
Metals (iron and steel and manufactures)	30,439.11
Silks	3,184.39
Skins, hides, furs, etc	25,375.96
Wool, camel, and other hair	44,515.03
Woolens	298,960.37
All other articles	3,163.65
Total	440,669.38
Total for same quarter in 1893	125,308.79
Increase	315,360.59

Leith.

Animals	194.66
Beer, ale, stout, etc	5,505.41
Books, prints, engravings, etc	10,523.83
Clocks and watches	61.52
Colors, paints, and varnishes	2,163.77
Drugs, chemicals, dyes, etc	10,846.48
Fish	9,783.65
Glass, china, and earthen ware	396.54
Glue and gelatin	42,197.06
Grease, etc	5,894.93
Machinery	2,157.91
Metals:	
Iron and steel and manufactures	566.20
Other	465.51
Paper and paper hangings	559.83
Paper stock	2,803.33
Rope, string, etc	$1,895.07
Rubber (clothing and manufactures)	4,736.84
Skins, hides, furs, etc	2,596.22
Stone (marble, granite, etc.)	572.42
Tea	405.54
Wines and spirits	17,341.65
Woods	3,957.23
Wool, camel, and other hair	20,086.84
Woolens	23,529.33
All other articles	2,425.51
Total	171,667.28
Total for same quarter in 1893	91,926.54
Increase	99,740.74

Liverpool.

Animals	3,936.99
Bags and bagging	183,539.52
Beer, ale, stout, etc	35,695.76
Books, prints, engravings, etc	761.08
Bricks and tiles	9,128.13
Cement	35,223.71
China clay, etc	15,295.40
Coal and coke	40,318.95
Colors, paints, and varnishes	8,016.44
Cotton manufactures	276,078.15
Drugs, chemicals, dyes, etc	1,920,461.58
Fish	187,163.38
Floor cloth	18,721.42
Fruits, nuts, and vegetables	129,186.59
Furniture	31,018.66
Glass, china, and earthen ware	49,485.76
Glue and gelatin	837.03
Grease, etc	125,390.23
Hardware	10,029.84
Hats and felt	4,730.23
Hemp, flax, tow, etc	53,925.66
Machinery	6,292.36
Metals:	
Iron and steel and manufactures	168,532.81
Other	14,380.48
Paper stock	97,446.87
Pitch and tar	2,102.31
Preserves, pickles, etc	2,009.85
Provisions (cheese, bacon, etc.)	3,479.54
Rice	73,605.80
Rubber (raw)	662,186.97
Saddlery	6,462.70
Salt	214,266.10
Seeds, plants, etc	24,819.13
Skins, hides, furs, etc	313,298,64
Spices, etc	545.04
Sugar	29,979.82
Tea	23,076.94
Tin	38,056.02
Tin plates, black plate, etc	2,081,605.29
Wines and spirits	1,678.93
Woods	48,572.53
Wool, camel, and other hair	1,499,483.20
Woolens	16,808.88
All other articles	52,727.05
Total	8,520,361.77
Total for same quarter in 1893	5,667,812.90
Increase	2,852,548.87

London.

Animals	$36,307.01
Antimony	36,516.51
Artificial flowers	45,566.05
Bags and bagging	1,791.11
Beer, ale, stout, etc	225,511.96
Blacking	4,679.39
Books, prints, engravings, etc	387,661.76
Bristles	89,481.39
Brushes	10,883.92
Burlaps	41,809.62
Carpets and rugs	22,653.37
Cement	182,522.34
Chalk	22,251.59
China clay, etc	4,527.24
Clocks and watches	11,528.98
Cocoa and chocolate	35,915.49
Coffee	228,396.75
Colors, paints, and varnishes	75,758.27
Cotton manufactures	79,749.12
Drugs, chemicals, dyes, etc	475,863.89
Emery and polishing powders	5,391.21
Feathers	370,714.47
Fish	15,546.52
Floor cloth	29,639.17
Fruits, nuts, and vegetables	221,838.62
Fuller's earth	21,504.72
Furniture	25,315.77
Glass, china, and earthen ware	60,522.61
Gloves, hosiery, etc	54,331.07
Glue and gelatin	14,052.51
Grease, etc	40,834.57
Gums	114,926.39
Hair, cattle, etc	41,168.42
Hats and felt	12,701.02
Hemp, flax, tow, etc	170,210.70
Indigo	85,106.08
Ivory	79,805.49
Jute	39,618.28
Leather, etc	89,295.08
Linens	47,455.51
Linseed	862,266.43
Machinery	24,858.32
Matches	3,351.80
Metals:	
Iron and steel and manufactures	15,309.03
Other	194,888.44
Mustard	81,804.47
Oils	169,334.53
Paper and paper hangings	61,291.13
Paper stock	99,344.04
Perfumery	23,073.30
Pitch and tar	55,373.96
Plumbago	7,812.58
Precious stones	565,191.86
Preserves, pickles, etc	140,180.02
Provisions (cheese, bacon, etc.)	16,404.08
Rice	19,670.49
Rubber:	
Raw	172,419.47
Manufactures	19,903.01
Saddlery	7,917.19
Sausage casings	28,996.80
Scientific and other instruments	25,733.77
Seeds, plants, etc	157,457.07
Shellac	$106,302.37
Shells	173,980.64
Silks	104,105.85
Soaps	51,369.56
Skins, hides, furs, etc	1,576,881.99
Spices, etc	97,874.03
Sponges	22,303.41
Stationery, etc	33,507.80
Sticks and canes	27,622.80
Straw:	
Plaits and braids	378,615.44
Other manufactures	56,969.76
Stone (marble, granite, etc.)	13,412.07
Sugar	4,932.68
Tea	194,526.64
Tin	552,829.53
Tin plates, black plate, etc	117,509.67
Tobacco and cigarettes	31,110.84
Wearing apparel	28,577.55
Wines and spirits	106,335.64
Woods	26,414.88
Wool, camel, and other hair	1,557,515.98
Woolens	369,748.40
Works of art	484,853.84
All other articles	238,753.59
Total	12,607,990.72
Total for same quarter in 1893	6,592,542.39
Increase	6,015,448.33

Manchester.

Buttons	1,056.98
Card clothing	18,005.66
Carpets and rugs	25,780.72
Cotton:	
Raw	15,465.37
Manufactures	1,408,405.62
Drugs, chemicals, dyes, etc	216,509.79
Elastic	34,059.98
Feathers	22,443.27
Gloves, hosiery, etc	18,623.24
Hair (cattle, etc.)	9,574.15
Hats and felt	2,129.52
Lace	77,790.19
Leather, etc	35,390.75
Linens	258,356.86
Machinery	222,533.37
Metals (iron and steel and manufactures)	53,028.60
Paper and paper hangings	71,209.70
Paper stock	131,477.70
Rubber (clothing and manufactures)	11,961.64
Silks	146,810.14
Thread	134,739.03
Wearing apparel	152.06
Wool, camel, and other hair	7,372.20
Woolens	29,773.57
Yarn	2,408.88
All other articles	38,228.00
Total	2,993,286.49
Total for same quarter in 1893	1,840,831.72
Increase	1,152,454.77

Newcastle.

Antimony	$18,818.75
Books, prints, engravings, etc.	520.71
Bricks and tiles	1,698.41
Carpets and rugs	1,001.62
Cement	1,318.82
Coal and coke	13,952.26
Colors, paints, and varnishes	5,723.01
Cotton manufactures	9,683.68
Drugs, chemicals, dyes, etc.	74,949.37
Leather, etc.	4,866.50
Linens	7,160.71
Metals:	
Iron and steel and manufactures	15,616.03
Other	2,491.65
Rope, string, etc.	2,968.56
Seeds, plants, etc.	8,649.41
Soaps	494.83
Skins, hides, furs, etc.	14,983.95
Stone (marble, granite, etc.)	9,048.03
Sugar	664.28
Tin plates, black plate, etc.	379.68
Woolens	4,764.78
All other articles	7,781.23
Total	207,536.27
Total for same quarter in 1893	251,521.52
Decrease	43,985.25

Nottingham.

Colors, paints, and varnishes	20,692.75
Cotton manufactures	99,756.53
Cycles	265.04
Elastic	59,443.45
Emery and polishing powders	2,616.90
Glass, china, and earthen ware	2,399.83
Gloves, hosiery, etc.	68,546.15
Grease, etc.	1,300.12
Hats and felt	2,920.12
Lace	833,050.18
Leather, etc.	19,930.25
Linens	51,183.13
Machinery	37,588.61
Metals (iron and steel and manufactures)	4,700.05
Ores (iron, etc.)	201.51
Seeds, plants, etc.	139.82
Silks	35,756.97
Skins, hides, furs, etc.	180,124.35
Stationery, etc.	430.96
Stone (marble, granite, etc.)	1,459.44
Woolens	7,743.53
All other articles	3,473.53
Total	1,433,723.22
Total for same quarter in 1893	775,419.87
Increase	658,304.35

Plymouth.

Books, prints, engravings, etc.	619.59
China clay, etc.	62,869.47
Drugs, chemicals, dyes, etc.	10,937.06
Seeds, plants, etc.	214.21
Stone (marble, granite, etc.)	1,259.33
Wearing apparel	$198.00
Wines and spirits	4,096.14
Total	80,193.80
Total for same quarter in 1893	39,202.81
Increase	40,990.99

Sheffield.

Animals	38.93
Beer, ale, stout, etc.	353.55
Cutlery	241,655.33
Drugs, chemicals, dyes, etc.	2,236.70
Glue and gelatin	21,007.90
Hardware	6,485.02
Lace	231.38
Linens	1,714.67
Machinery	2,364.54
Metals:	
Iron and steel and manufactures	360,924.38
Other	1,118.25
Precious stones	8,788.23
Skins, hides, furs, etc.	40,480.91
Stationery, etc.	116.55
Stone (marble, granite, etc.)	277.63
Unions	282.72
Wines and spirits	613.34
Wool, camel, and other hair	6,991.05
All other articles	19,610.94
Total	715,232.04
Total for same quarter in 1893	338,060.20
Increase	377,171.84

Southampton.

Books, prints, engravings, etc.	241.00
Glass, china, and earthen ware	324.00
Machinery	126.60
Rope, string, etc.	207.00
Scientific and other instruments	467.50
Seeds, plants, etc.	146.00
Skins, hides, furs, etc.	11,167.00
Wearing apparel, etc.	177.00
Works of art	140.40
All other articles	5,304.50
Total	18,301.00
Total for same quarter in 1893	18,043.23
Increase	257.77

Swansea.

Bricks and tiles	1,616.93
Coal and coke	44,534.29
Drugs, chemicals, dyes, etc.	46,700.83
Metals:	
Iron and steel and manufactures	45,567.79
Other	15,481.23
Oils	4,430.66
Stone (marble, granite, etc.)	2,183.35
Tin plates, black plate, etc.	1,515,455.56
All other articles	510.62
Total	1,676,481.26
Total for same quarter in 1893	1,085,220.35
Increase	591,260.91

Tunstall.

Beer, ale, stout, etc	$164.28
Bricks and tiles	2,473.13
China clay, etc	5,711.64
Colors, paints, and varnishes	2,873.32
Elastic	749.44
Glass, china, and earthen ware	1,022,215.56
Hardware	1,671.64
Paper and paper hangings	3,474.11
Silks	447.72
Skins, hides, furs, etc	358.69
Stationery, etc	520.72
All other articles	1,254.21
Total	1,041,914.46
Total for same quarter in 1893	526,945.37
Increase	514,969.09

Total from United Kingdom.

Animals	41,492.10
Antimony	55,335.26
Artificial flowers	45,566.05
Bags and bagging	209,892.47
Beer, ale, stout, etc	430,165.88
Blacking	5,037.19
Books, prints, engravings, etc	443,793.47
Bricks and tiles	35,240.96
Bristles	89,481.39
Brushes	10,883.92
Burlaps	1,248,187.38
Buttons	15,019.19
Card clothing	67,055.07
Carpets and rugs	129,078.88
Cement	219,064.87
Chalk	22,251.59
China clay, etc	165,885.47
Clocks and watches	11,880.15
Coal and coke	105,146.74
Cocoa and chocolate	44,089.87
Coffee	228,396.75
Colors, paints, and varnishes	127,478.62
Confectionery	2,761.15
Cotton:	
Raw	35,937.70
Manufactures	2,833,425.87
Cutlery	241,655.33
Cycles	23,222.53
Drugs, chemicals, dyes, etc	3,091,911.47
Elastic	96,792.51
Emery and polishing powders	8,008.11
Feathers	397,147.90
Fish	311,316.09
Floor cloth	78,649.34
Fruits, nuts, and vegetables	413,829.21
Fuller's earth	26,553.50
Furniture	56,334.43
Glass, china, and earthen ware	1,237,552.03
Gloves, hosiery etc	141,623.09
Glue and gelatin	90,020.64
Grease, etc	177,208.81
Gums	114,926.39
Hair (cattle, etc.)	51,557.67
Hardware	244,411.88
Hats and felt	27,757.13
Hemp, flax, tow, etc	543,928.66
Indigo	$85,106.08
Ivory	79,805.49
Jute	82,063.96
Lace	937,571.98
Leather, etc	192,320.95
Linens	3,309,396.52
Linseed	1,852,807.06
Machinery	439,036.37
Matches	3,351.80
Metals:	
Iron and steel and manufactures	919,592.93
Other	265,918.36
Mustard	81,804.47
Oils	176,812.60
Ores (iron, etc.)	3,564.37
Paper and paper hangings	161,278.39
Paper stock	353,475.59
Perfumery	23,073.30
Pitch and tar	74,173.32
Plumbago	7,812.58
Precious stones	573,980.09
Preserves, pickles, etc	159,700.75
Provisions (cheese, bacon, etc.)	41,316.18
Rice	93,276.29
Rope, string, etc	8,235.45
Rubber:	
Raw	835,976.37
Clothing and manufactures	36,601.49
Saddlery	58,210.59
Salt	214,266.10
Sausage casings	30,335.08
Scientific and other instruments	29,281.21
Seeds, plants, etc	202,398.38
Shellac	106,302.37
Shells	173,980.64
Silks	482,245.93
Soaps	51,864.39
Skins, hides, furs, etc	2,239,236.21
Spices, etc	98,419.07
Sponges	22,303.41
Stationery, etc	44,525.79
Sticks and canes	27,622.80
Straw:	
Plaits and braids	378,625.44
Manufactures	56,969.76
Stuff goods	1,046,041.65
Stone (marble, granite, etc.)	93,938.74
Sugar	56,297.64
Tea	218,009.12
Thread	305,380.22
Tin	601,790.74
Tin plates, black plate, etc	3,928,901.81
Tobacco and cigarettes	31,110.84
Unions	128,852.90
Wearing apparel, etc	31,243.31
Wines and spirits	187,013.46
Woods	78,944.64
Wool, camel, and other hair	3,833,909.73
Woolens	2,833,626.44
Works of art	484,934.24
Yarn	202,705.48
All other articles	522,809.50
Total	43,536,555.08
Total for same quarter in 1893	24,461,082.27
Increase	19,075,472.81

THE BELGIAN BUREAU OF LABOR.*

A royal decree has just been issued defining the scope of the investigations of the bureau of labor, which was established last November and mentioned in CONSULAR REPORTS No. 172 (January, 1895), p. 133. The bureau of labor has as its subject to investigate, with the assistance of the competent authorities, the condition of industrial, commercial, and agricultural labor; to determine the effects of laws and regulations which concern workingmen; and, in general, to collect all information which will contribute to improvement in their material, intellectual, and moral condition. The bureau pays special attention to the following subjects: Economic and commercial situation of the different branches of labor; state of the labor market for different vocations; stoppage of work, its causes, duration, effects, and the means of remedying it (insurance included); condition of workmen and apprentices of both sexes as to salary and methods of remuneration, duration of work, days of rest, conditions of admission and discharge, and other clauses of labor contracts; expense of living and budget of the various classes of workingmen and women; retail price of articles and food ordinarily consumed by the great mass of the public; influence of the income tax, the consumption and the condition of the laboring class; number of labor accidents according to occupations, severity of wounds, length of time incapacitated for work, age, and civil position of the victims, and the material and moral causes of the accidents; morbidity of various classes of workmen according to age, sex, and profession, especially diseases arising from nature of work, kind of food, and abuse of alcoholic liquors; number of workmen annually refused for the army by reason of insufficient height, bodily defects, or constitutional weakness; number of workmen annually sent to houses of detention for beggars, houses of refuge and reform, and State institutions; industrial conflicts between employers and workmen, their frequency, causes, progress, conclusions, and consequences; effects of legal or voluntary institutions destined to favor agreements between masters and workmen, such as councils of conciliation, arbitration, and similar bodies; results of the laws relative to labor of women and minors' wages, shop regulations, labor contracts, and, in general, all legislative measures which form obligatory clauses in labor contracts; results of measures and regulations concerning the salubrity and security of workshops; condition of the dwellings of working people, effects of laws upon workmen's habitations, the activity of committees of patronage, development, and effects of societies for the construction of workmen's homes; condition and development of associations of employers or employees and of mixed associations; condition and development of the different methods of insurance against sickness, accidents, inability to work, and old age, as well as insurance for widows and orphans; condition and development of savings in different parts of the country and according to the classes of workmen; condition and development of cooperative societies and the effects of

*See also page 364 of this number.

laws which concern them; extent and results of industrial, professional, and economic instruction; condition of apprenticeship in the different industries and trades; effects of measures taken to alleviate poverty; effects of measures relative to the condition of labor adopted by certain public administrations (such as minimum of salary, duration of work, prizes, councils of conciliation, participation in the profits, insurance against accidents, etc.); status of industries, conditions of production, condition of labor, expense of living, emigration, colonization, strikes, the effects of war, etc., in foreign countries.

The bureau is charged to study and to make public the movement of legislation concerning labor and workmen abroad, and to inquire into the effects of foreign laws relative to labor and workingmen. It must also cooperate in the study of new legislative measures and of ameliorations to be introduced into existing legislation relative to labor, and superintend the execution of all laws and regulations relative to the following subjects: Councils of industry and labor, councils of arbitration, superior councils of labor, payment of wages, regulation of workshops, labor contracts, apprenticeship, labor insurance, professional unions, mutual-aid societies, and labor police regulations.

Specialists may be employed from time to time for special investigations. The bureau will publish monthly an official bulletin under the title Revue du Travail (Labor Review). The review will contain information of the state of the labor market; stoppage of work, industrial conflicts between employers and workmen commenced, terminated, or in progress; arrangements regulating new conditions of labor; resolutions adopted by councils of industry and labor; labor accidents and judicial decisions rendered in virtue of laws relative to responsibility; measures taken by the public administrations relative to the salubrity and security of industrial establishments; the construction of workmen's habitations; the development of mutual aid and cooperation of economy; individual, professional, and economic instruction; congress of workingmen's associations and the work of societies which are interested in social questions.

This review will also furnish summarized information on the fluctuations of commerce; exportation and importation, if need be; the effects of colonization; the retail price of articles and food ordinarily consumed by laboring people, as well as comparative tables of selling prices (wholesale) upon the various markets of the world. It will, finally, comprise notes on the principal events affecting labor and on the tendency of labor legislation at home and abroad.

The bureau will issue in separate publications the results of special investigations undertaken in conformity with the programme heretofore given, as well as other works reviewing labor legislation in foreign countries and its results. In each of the provinces, there is a provincial bureau of labor subordinate to the national bureau.

HENRY C. MORRIS,

GHENT, *April 30, 1895.* *Consul.*

PRODUCTION OF COAL.

The following statement showing the quantity, value, and average value at the pit's mouth, of coal produced in certain countries, and the number of persons employed, with the quantity produced per person in each year from 1883 to 1893, as far as the particulars can be stated, have been compiled from a parliamentary report recently issued:

By far the most important mining industry, not only in the United Kingdom but in many foreign countries as well, is the coal industry, and the Board of Trade has, in view of the recommendation of the royal commissioners, considered it desirable to publish a separate parliamentary paper containing information with regard to that industry, not only as carried on in this country, but also as carried on in various foreign countries whose governments publish information relating to the production and consumption of coal.

It may be useful to notice briefly some of the more salient points in the present return, as well as the results they show. Turning to the European countries, it will be seen that the country which has the largest output of coal, after the United Kingdom, is Germany; it will be observed, however, that the quantity of coal produced in that country does not amount to half of that produced in the United Kingdom. After Germany, comes France, which country only produces a third of what is produced in Germany; while next again, comes Belgium, where the amount is not very far behind that produced in France. The average value of the coal produced, taken at the pit's mouth—and it should be remarked that, as stated in the tables themselves, the average value at the pit's mouth has, in all cases where it is stated, been taken—compares, as regards the United Kingdom and Germany, in a very singular way. Thus, the average value at the pit's mouth in the United Kingdom in 1891 was 8s. ($1.94) per ton; in 1892 it was 7s. 6¼d. ($1.76½), and in 1893, 6s. 9½d. ($1.65); while in Germany, the average value was identical in 1891, 7s. 4½d. ($1.79) in 1892, and 6s. 9d. ($1.64) in 1893. These results are, indeed, curiously approximate, but when they are compared with those of France and Belgium, they become more remarkable. In France, it will be observed, the average value at the pit's mouth was, in 1890, 9s. 7d. ($2.33); in 1891, 10s. 8d. ($2.59); in 1892, 9s. 11½d. ($2.42); while in Belgium it was, in 1890, 10s. 6½d. ($2.56); in 1891, 10s. 0¾d. ($2.44½); in 1892, 8s. 2¾d. ($1.99½); and in 1893, 7s. 5¾d. ($1.81½); but whether or not these latter were at the pit's mouth does not appear from the returns received. Taking them to be so, however, as is probably the case, it will be seen that the value of coal worked at the place of production, certainly in France, and probably in Belgium, too, is far higher than it is in either the United Kingdom or Germany. There is one other country, however, with which it is necessary to compare the out-

put with that in European countries, namely, the United States. In the latter country, the quantity of coal produced has in recent years increased very considerably, until now it almost equals that of this country. In the earlier years dealt with in these tables—1883–1885—the average output of the United States was 104,000,000 tons; in the later years—1891–1893—it was 158,000,000 tons. During the same period the average value at the pit's mouth, which in the earlier years was 6s. 3d. ($1.52) fell in the last years to 5s. 4d. ($1.29), which was a much lower figure than in the United Kingdom or in Germany, and not much above half what it was in France and Belgium during the same period.

Year.	Population.	Quantity produced.	Value.	Average value at pit's mouth.	Number of persons employed.	Quantity produced by each person.
United States.		*Tons.**				*Tons.**
1883	53,693,000	102,868,000	$159,495,000.00	$1.57	(†)	(†)
1884	54,911,000	106,906,000	143,769,000.00	1.35½	(†)	(†)
1885	56,148,000	99,069,000	159,020,000.00	1.62½	(†)	(†)
1886	57,404,000	100,664,000	154,600,000.00	1.55	(†)	(†)
1887	58,680,000	116,050,000	182,557,000.00	1.59½	(†)	(†)
1888	59,974,000	132,732,000	190,881,000.00	1.46	(†)	(†)
1889	61,289,000	126,098,000	160,226,000.00	1.28	299,959	421
1890	62,622,000	140,883,000	176,805,000.00	1.26½	318,204	443
1891	63,975,000	150,506,000	191,133,000.00	1.28	332,153	453
1892	65,403,000	160,115,000	207,566,000.00	1.30½	341,943	468
1893	66,826,000	162,815,000	208,439,000.00	1.29	363,309	448
United Kingdom.						
1883	35,450,000	163,737,000	224,121,791.00	1.36	471,679	347
1884	35,724,000	160,758,000	211,429,959.00	1.30½	478,226	336
1885	36,016,000	159,351,000	200,202,943.50	1.25	478,981	333
1886	36,314,000	157,518,000	185,637,509.00	1.17	482,012	327
1887	36,599,000	162,120,000	190,246,084.50	1.16½	493,122	329
1888	36,881,000	169,935,000	209,118,371.50	1.22½	510,741	333
1889	37,179,000	176,917,000	273,375,637.50	1.54½	542,828	326
1890	37,485,000	181,614,000	364,763,641.00	2.00	590,011	308
1891	37,881,000	185,479,000	360,607,650.00	1.94	626,568	296
1892	38,107,000	181,787,000	321,432,325.00	1.76½	647,409	281
1893	38,440,000	164,326,000	271,599,365.00	1.65	640,662	256
Germany.						
1883	46,016,000	55,943,000	71,445,086.50	1.27	207,577	270
1884	46,336,000	57,234,000	72,700,643.50	1.26½	214,728	267
1885	46,858,000	58,320,000	73,712,875.50	1.25½	218,725	267
1886	47,134,000	58,057,000	73,172,694.00	1.25½	217,581	267
1887	47,630,000	60,334,000	75,693,541.00	1.24½	217,357	278
1888	48,168,000	65,386,000	82,988,424.50	1.26	225,452	290
1889	48,717,000	67,342,000	93,699,591.00	1.38	239,954	281
1890	49,428,000	70,238,000	130,918,583.00	1.86	262,475	268
1891	49,767,000	73,716,000	143,444,954.00	1.94	283,227	260
1892	50,279,000	71,372,000	128,227,408.50	1.79	289,415	247
1893	50,748,000	73,852,000	121,273,180.00	1.64	290,632	254
France.						
1883	37,877,000	20,759,000	50,815,993.00	2.44½	109,574	189
1884	37,945,000	19,527,000	47,005,523.50	2.40½	106,383	184
1885	38,153,000	19,069,000	43,671,971.00	2.29	98,600	193
1886	38,219,000	19,454,000	42,499,144.50	2.17½	99,386	196
1887	38,300,000	20,810,000	43,209,653.50	2.07	99,997	208
1888	38,400,000	22,172,000	44,601,472.50	2.00½	102,070	217

*1 ton=2,240 pounds. †No report.

Statistics of coal production—Continued.

Year.	Population.	Quantity produced.	Value.	Average value at pit's mouth.	Number of persons employed.	Quantity produced by each person.
France—Continued.		*Tons.**				*Tons.**
1889	38,450,000	23,852,000	$48,480,073.00	$2.02½	107,941	221
1890	38,430,000	25,591,000	59,726,554.50	2.33	118,502	216
1891	38,343,000	25,502,000	66,189,266.50	2.59	128,665	198
1892	38,323,000	25,697,000	62,330,132.00	2.42	130,116	197
1893	(†)	25,250,000	(†)	(†)	(†)	(†)
Belgium.						
1883	5,721,000	18,178,000	35,968,301.50	1.97	106,252	171
1884	5,785,000	18,051,000	33,486,386.50	1.85	105,582	171
1885	5,852,000	17,438,000	30,099,302.50	1.72	103,095	169
1886	5,910,000	17,286,000	27,748,783.00	1.60½	100,282	172
1887	5,975,000	18,379,000	28,746,415.50	1.56½	100,739	182
1888	6,030,000	19,218,000	31,539,786.50	1.64	103,477	186
1889	6,094,000	19,870,000	36,542,548.50	1.83½	108,382	184
1890	6,069,000	20,366,000	52,266,210.00	2.56	116,779	174
1891	6,136,000	19,676,000	48,168,617.00	2.44½	118,983	165
1892	6,194,000	19,583,000	39,185,058.00	1.99½	118,578	165
1883	(†)	19,410,000	35,311,324.00	1.81½	116,861	166
Austria.						
1883 to 1890	39,953,000	8,749,000	11,614,510.56	1.24¾	43,027	200¼
Hungary.						
1883 to 1892		928,800	1,814,717.85	1.95¼	(†)	(†)

* 1 ton=2,240 pounds. † No report.

WILLIAM F. GRINNELL,
Consul.

MANCHESTER, *April 30, 1895.*

STRIKES IN AUSTRIA.

The strikes taking place in Austria are similar in cause and effect to those taking place in the United States, but are accompanied by less violence and are more apt to have a semipolitical character. The Socialists, who are already an important political party in Germany, are gaining ground in Austria, and it is the leaders of this party that in many cases instigate the demand for greater privileges. There is less violence for the simple reason that with a standing army of 360,000 men, disorders are so ineffective as to be almost ridiculous. The police, who promptly check any lawlessness, act on the principle that an ounce of prevention is worth a pound of cure, and do not allow the disturbances that take place to become serious.

The most important concession made by the Austrian Government to the agitation of the labor party, is the law by which employers are obliged to continue the wages of their employees who are incapable of working on account of injuries or sickness. This humane law prevents a great deal of

suffering, as the laborers are so poorly paid in Austria that they can seldom save much and would become absolutely destitute in a short time if their wages were stopped.

The largest strike that took place in Vienna during the year 1893 was that of the carpenters, on account of which 1,800 persons left their work. The strike, which was for higher wages, had been meditated for a long time and lasted forty-two days, at the end of which time half of the strikers had resumed work. The strikers obtained an increase of about 10 per cent in their wages on a compromise, while the strike cost, according to the estimate of the strike committee, about $12,000.

The next strike in importance was that of the higher grade of carpenters (a distinct class from the last mentioned). They demanded that eight hours be fixed as the limit for a day's work; that workmen were only to be engaged by consent of other employees, and that a special fund for sick carpenters should be founded. Thirty-six firms granted the conditions imposed by the workmen at once; 135 firms refused, and their workmen, to the number of 700, struck. The strike lasted seventy-two days, and all the firms, with the exception of fifteen large ones, who engaged other workmen, granted the concessions demanded.

The following statistics for the years 1891–93, which have been drawn from a report of the statistical bureau of the Ministry of Commerce shows a steady increase in labor conflicts, and will give an idea of their magnitude and success. It will be noticed, that in comparison with the strikes we have in the United States, they are on a very small scale:

Year.	Number of strikes.	Business houses involved.	Workmen engaged.	Workmen who struck.	Working days lost.
1891	104	1,916	40,486	14,025	247,086
1892	109	1,519	24,621	14,123	159,992
1893	172	1,207	45,539	28,120	247,086

The strikes lasted, on an average, as follows: In 1891, 17 days; 1892, 10 days; 1893, 18 days. In the year 1893, there were 100 strikes that lasted less than a week, 55 that lasted over a week and less than a month, and 17 that lasted over a month.

Reasons given for the strikes.

Reasons.	1891.	1892.	1893.
Higher wages	38	19	26
To prevent a reduction of wages	20	19	16
Higher wages, with shorter work hours or other concessions	63	32	28
Decrease in the number of hours or other concessions, but not for higher wages	5	9	7
On account of the discharge of workmen or to prevent the engagement of others	7	15	21
Various other causes, such as prompt payment and the prevention of contract labor, etc	20	7	25

Success obtained.

Result.	1891.	1892.	1893.
Complete success	19	26	33
Partial success	29	29	53
Failed	54	46	84

In 1893, in particular, there were 191 strikes in order to obtain an increase in wages, of which 17 were successful, 43 partially so, and 41 failed completely. In 20 strikes against a reduction of wages, 10 were successful.

MAX JUDD,
Consul-General.

VIENNA, *March 1, 1895.*

BRITISH EXPORT OF TIN PLATE.

I transmit herewith extracts from official returns on the "South Wales coal and iron trade statistics" for March;* also, the British tin-plate exports for the month and quarter, respectively, ending March 31, 1895.

WILLIAM HARRIS,
Vice and Deputy Consul.

CARDIFF, *April 10, 1895.*

BRITISH TIN-PLATE RETURNS FOR MARCH.

The following table shows the quantity and value of tin plates and sheets exported to foreign countries during the month of March, 1895, compared with the corresponding month in 1894.

To—	1895.		1894.	
	Quantity.	Value.	Quantity.	Value.
	Tons.		*Tons.*	
Russia	2,813	£30,744	166	£2,110
Germany	617	7,988	134	1,781
Holland	292	3,677	475	6,501
France	2,073	25,596	884	10,970
Portugal, Azores, and Madeira	357	4,344	235	2,829
Italy	146	1,757	169	2,389
Roumania	268	3,257	1,017	14,381
United States	18,743	219,174	16,907	204,257
Brazil	401	4,508	255	3,240
Argentine Republic	61	653	243	2,921
British East Indies	919	10,850	636	7,979
Australasia	1,020	11,927	1,098	13,843
British North America	639	7,245	650	8,454
Other countries	2,452	28,398	2,553	32,657
Total	30,801	360,128	25,422	314,312

* Filed in the Bureau of Statistics, Department of State.

The following table shows the quantity and value of tin plates exported during the three months of the present year, compared with the corresponding period of 1894:

To—	1895.		1894.	
	Quantity.	Value.	Quantity.	Value.
	Tons.		*Tons.*	
Russia	5,851	£67,354	7,634	£92,174
Germany	1,235	15,938	856	10,902
Holland	948	12,184	1,208	17,500
France	6,110	75,408	2,749	34,018
Portugal, Azores, and Madeira	991	12,083	745	9,058
Italy	833	9,989	767	10,027
Roumania	328	4,025	1,478	20,780
United States	60,570	704,391	48,616	598,539
Brazil	1,296	14,747	729	9,142
Argentine Republic	281	3,240	848	10,100
British East Indies	2,595	31,000	1,752	22,202
Australasia	2,505	29,252	2,956	37,001
British North America	2,044	23,191	3,066	38,781
Other countries	8,085	94,853	7,477	99,105
Total	93,672	1,097,655	80,881	1,009,329

NOTE.—£1=$4.886.

UNITED STATES VESSELS AT BARCELONA.

Comparatively few United States vessels enter the port of Barcelona. The masters of those that do are, as a rule, surprised at the bills that are presented to them, and they seem to me to have good reason to complain. Therefore, I think it well to call the attention of shipowners in the United States to the various items in the bills, in order that they may make more satisfactory agreements with the consignees, and may be able to give more explicit instructions to their masters. The last ship that was in this port was a coal ship, laden with 2,004 tons of cannel coal. As the bill presented to the master was an average bill, I obtained a copy of it, which was as follows:

	Pesetas.*
Harbor dues on amount of cargo delivered, at 4½ pesetas per ton	9,186.48
Translating bill of lading and manifests	56.00
Pilotage in and out	80.00
Pilotage in port	50.00
Anchor boat	80.00
Moorings for running lines	23.50
Clearing visit	25.00
Permits	44.50
Sundries and clearing	63.50
Duty on provisions	28.25
Italian bill of health	20.00

* 1 peseta=19.3 American cents, less 10 per cent exchange, or 17.4 cents.

	Pesetas.
Discharging cargo	3,131.25
Clearing fees	300.00
Total	*13,088.48
Total in American currency	$2,277.40

The ship was discharged in twenty days by four hand winches, after she had been in quarantine two days because she had lost a man overboard at sea.

In no port in Europe are the shipping masters or agents so troublesome. It is claimed they get the men to desert, and then charge altogether about $25 for each man they bring from Marseilles to fill the deserter's place. The result is that the masters are always in trouble here, and, not infrequently, are delayed three or four days after they are ready to clear because they are short-handed. These evils are difficult to remedy, but they should be known, and, of course, when evidence is obtainable of wrongdoing, I am always ready to make a proper complaint to the authorities.

No complaints are made about the ship chandlers. Just now they charge 1.70 pesetas per kilogram† for meat; 14 pesetas per 100 kilograms for potatoes; 50 centimos per kilogram for hard bread; and 2 pesetas per 100 gallons of water.

The port is about a mile long and half a mile wide, and is well protected by stonework and fairly well lighted at night. All the methods of discharging cargoes are more or less antiquated.

HERBERT W. BOWEN,

BARCELONA, *April 22, 1895.* *Consul-General.*

CUBA'S INDUSTRIAL BURDENS.

I inclose a translation of a telegram sent on the 15th instant by a committee of the representative sugar manufacturers, distillers, and merchants of Matanzas to the president of the Spanish ministry, petitioning for the removal of tariff obstacles to the entrance of Cuban products into Spain. I likewise inclose a translation of the reply received from the president of the ministry, informing the said committee that their petitions can only be granted through legislative action, and that it is impossible to say when the Spanish Parliament will be able to deliberate on them.

RAMON O. WILLIAMS,

HABANA, *April 17, 1895.* *Consul-General.*

[Translation from La Lucha, of March 16, 1895.]

PETITION OF SUGAR MANUFACTURERS.

At a meeting held by the sugar manufacturers, distillers, and merchants of Matanzas, on the 31st ultimo, after an earnest discussion, it was agreed to appoint a committee to indite and

*Net. †1 kilogram=2.2046 pounds.

address telegrams to the Government at Madrid. The members forming this committee to-day sent the following telegram:

"MATANZAS, *April 15, 1895.*

"*To the President of the Council of Ministers, Madrid.*

"Cuban sugar manufacturers urgently ask the Government to grant entrance of colonial sugars into the market of the mother country on a par with the sugars of its own production, as also the rum we produce. We ask for the free entrance there of our molasses and protection for our tobacco.

"We ask for the enactment of a law permitting the establishment of banks, with 5 per cent tax on profits, for a term of ten years, so as to attract capital here.

"We ask for the immediate promulgation of the law of agricultural credit, now before Parliament.

"We ask for a reduction in the import duties on articles of prime necessity and machinery so as to cheapen production.

"Economic situation of island desperate; such a terrible economic crisis never before felt.

"Governments of other countries protect their sugar industry the same as that of Spain protects its home industry.

"As Spaniards, we ask protection for Cuba.

"Our producers clamor for preferential consideration.

"The solution asked is indispensable to save the island from imminent ruin."

[Translation.]

REPLY OF THE MINISTRY.

The President of the Ministry replied yesterday to the preceding telegram addressed to it on the 15th instant by the committee of sugar manufacturers, distillers, and merchants of Matanzas, in the following terms:

"*Galindez, Matanzas:*

"To grant petitions, legislative measures are needed. It is impossible to say when Parliament will be able to deliberate upon them."

PAPER AND PAPER MANUFACTURES IN SWITZERLAND.

Glancing over the Swiss customs statistics, I find that Switzerland's annual imports of paper and manufactures thereof exceed her exports in value by about $400,000. Germany, as usual, supplies the lion's share, with France, Austria, and England, as close seconds, making up the balance. None of the paper imported is credited to the United States, although I notice that some fine qualities of writing and linen letter paper, typewriting-machine letter paper, and artistic wall paper of American make has found its way indirectly to this market, is on sale, and is well spoken of by the trade.

I am of opinion that, if American manufacturers would make some efforts, they could secure a share of the Swiss paper trade. The best way to obtain a foothold would be to send a representative speaking the languages of the country (German, French, and Italian), well equipped with a full line of samples and posted on freight rates, to the different points. But if not prepared to do this at the beginning, catalogues in the French and German lan-

guages should be sent out with type samples and price list attached. Prices should be made delivered (freight and duty paid).

The following table will show the imports of paper and its manufactures for the years 1892 and 1893, as well as the rates of import duties on same:

Description.	1892.	1893.	Duty.*
Wrapping paper, not satin finished	$29,917	$29,803	$0.80
Printing, writing (ruled and unruled, satin-finished), wrapping, blotting, drawing paper, etc	236,862	230,209	1.60
In varied colors of every kind, sheet music, wall paper, etc	199,356	136,566	3.20
Letter paper and envelopes in boxes	69,322	59,846	4.00
Tags, advertising matter, labels, etc., printed or lithographed, and envelopes of all kinds and colors	139,240	134,040	5.00
Pasteboard:			
Common	47,545	37,021	.70
White or paper covered	23,679	22,540	2.00
Bookbinders' materials of all descriptions	241,570	167,580	7.00
Paper collars, cuffs, shirt bosoms, etc	95,440	119,360	8.00

* Per 220 pounds.

The freight rates on all classes of paper, including wall paper, from Antwerp (the nearest seaport) to points in Switzerland, averages $1.15 per 220 pounds. Through rates from American shipping points, inland and ocean, to Antwerp are obtainable from any railroad company in the United States.

As to ordinary printing paper for books and newspapers, as well as common writing paper, I am told Swiss manufacturers furnish same at noncompetitive figures. For the better qualities of papers of all descriptions, and especially for the kinds known as surface coated and manufactures thereof, for artistic and illustrated printing, linen, parchment, and other fine letter papers, white and colored tissue, closet paper, etc., in which America excels other countries, I think Switzerland would offer a good field to canvass, for all of the above mentioned is supplied by foreign manufacturers.

American wall paper, that is, the finer qualities and of artistic designs, such as I know we manufacture, would, I am quite sure, find favor in this country. Wall paper is extensively used; no bare white walls are to be seen in the better class of houses; a good quality of paper is used everywhere; even the halls are all papered with first-class paper. Wall paper is quite expensive here. It retails from 15 cents for the cheapest to $1.25 per roll of 27 feet in length and 20 inches in width for fancy, and much higher prices for embossed, etc. I am unable to ascertain what prices dealers pay for the different kinds, but, judging from retail prices, I think our people can compete.

I name below a few of the prominent paper dealers of Zurich, as well as the exclusive wall-paper houses. If any of the paper manufacturers in the United States are desirous of extending their trade, and would like a list of the dealers in this line throughout Switzerland, I shall try and obtain such and forward the same on application.

List of dealers in Zurich.—Reichlen & Bodmer and H. Schulthess, Thalgasse, wholesale paper; Waser & Co., A. Scholl, Jucker-Wegmann, and

Ad. Lohbäuer, paper; Naegeli-Weidmann, Alfred Baerwolff, Bahnhofstrasse, manufacturers' agents; F. Killinger, Loewenstrasse, manufacturers' agents, luxus paper; J. Bleuler, Bahnhofstrasse, J. Ernst, Poststrasse, Geyelin Bros., Raemistrasse, wall paper exclusively.

EUGENE GERMAIN,
Consul.

ZURICH, *March 26, 1895.*

RAILWAY ENTERPRISE IN EGYPT.

In no way is the industrial progress of Egypt better illustrated than by the present development of its railway system. Railway building is not a recent innovation in the ancient land of the Nile, however, as the first line —from Alexandria to Cairo—dates from 1852; and five years later, the English engineer, Robert Stephenson, completed rail communication between Alexandria and Suez, making the "overland route" to India as practicable for freighting as it had been for passenger traffic. This is now almost wholly superseded by the great canal of De Lesseps.

It is said that Egypt, in proportion to population, has more railway mileage and better service than Austria, Hungary, Spain, or Portugal. All railways are Government property, with the exception of a short suburban road from Alexandria along the Mediterranean to Ramleh, a 15-mile line connecting Cairo with the health resort of Helouan, and a steam tramway on the bank of the Suez Canal, joining Port Said with Ismailia. These private enterprises, as well as the Government lines, are very profitable. The income of the latter is pledged to certain European creditors of the country, as a partial consequence of the extravagance of Khedive Ismail.

A network of rails spreads over most of the delta, and the main line has for two or three years extended southward in the Nile valley to Girgeh, 336 miles from Cairo. Two years hence, the road will be completed to Keneh, 66 miles further south; and contracts have just been signed for carrying it to Assouan, the frontier town of Egypt, at the first cataract of the Nile, and 710 miles from the Mediterranean. This terminus is expected to be reached in time for the Upper Nile tourist traffic of 1897–98.

The moderate speed at which all trains are driven, save the expresses, and the cheapness of native labor permit the working expenses to be kept much below the European average. A level country, with frosts and violent storms unknown, makes railway construction a simple matter. Rock blasting, tunneling, excavating, and trestle building are practically unnecessary. Bridging the Nile, however, is expensive. The present cost of construction in the delta, where bridges over irrigating canals are numerous, averages $28,000 per mile of normal gauge; but in Upper Egypt the cost is not more than $25,000. The narrow-gauge (one meter) extension from Keneh to Assouan is to cost only $12,500 a mile.

Most of the locomotives come from Belgium, and the first-class passenger cars from England. Rails are also supplied by England, and bridge work by Belgian and French firms. Most of the engineers and firemen are natives, the former receiving from $30 to $75 per month, and the latter from $12.50 to $20 per month; the few European engineers employed average $100 a month. The railways are managed by an international administrative board of three, the chairman of which is an Englishman. The others are, respectively, French and Egyptian, and heads of departments represent nearly every European country. Sealed tenders for all materials are invited from English and other European industrial centers, and the most advantageous offers accepted.

The appended statistical table gives information valuable to anyone interested in railway economics. The enormous increase of passengers carried, the reductions in passenger and freight charges explaining the small increase of receipts, are specially worthy of notice:

Year.	Total receipts.	Passengers carried.	Mileage open to traffic, without sidings.	Per cent of operating expenses to receipts.
1888	$6,350,000	4,004,882	944	45
1889	6,505,000	4,378,453	946	44.9
1890	7,040,000	4,696,286	961½	43.3
1891	8,155,000	5,612,562	961½	43.3
1892	8,400,000	7,047,295	1,000	43.3
1893	8,095,000	9,301,081	1,081	43.2
1894	8,870,000	9,827,813	1,088	43.2

Street railways with electric traction are promised for Cairo next year, the concessionaires being Belgians; and Alexandria is expected soon to follow suit. There are several bidders for a concession for an electric tram line from Cairo to the Pyramids, a distance of 10 miles, to accommodate the enormous number of winter visitors to the capital. The Egyptian ministry recently had from a Frenchman a serious application for permission to build a "funicula" railway to the top of the great pyramid. The request was not taken into consideration.

FREDERIC C. PENFIELD,
Agent and Consul-General.

CAIRO, *April 6, 1895,*

EVAPORATED APPLES IN GERMANY.*

At various times, official and unofficial warnings have been published in German papers against evaporated apples from the United States to the effect that they were sufficiently impregnated with oxides of zinc to make their use dangerous to health. Samples were bought by the police depart-

*See CONSULAR REPORTS No. 175 (April, 1895), p. 535, and No. 172 (January, 1895), p. 89.

ment of this city from several grocers, and, according to the analysis returned by the city chemist, were found to contain oxide of zinc in the following quantities: Sample No. 1, 0.05 grams in one kilogram; No. 2, 0.125 grams; No. 3, 0.175 grams. Subsequently, complaints were filed by the authorities against two of the grocers for violation of the food laws, and they were charged with having willfully and knowingly sold American evaporated apples containing zinc, which were dangerous to health. One of the defendants produced an affidavit (furnished to him by his wholesale house), in which document a chemist declared that the same apples examined by him for the wholesale house did not contain any zinc. The second party testified that he had used a large portion of the apples in question in his own household without noticing the least ill effects from the use of them, and, therefore, held that he had good reason to believe the food to be pure. Both cases were dismissed, the defendants having shown to the satisfaction of the authorities that they were not aware of the dangerous adulteration of the apples and were justified in believing the merchandise to be harmless to the purchaser. No part of the questionable merchandise could be confiscated because it had already been sold. Under date of February 18, 1895, the Generalanzeiger, a grocers' trade journal, published the following:

The Royal District physician Sanitätsrath, Dr. Zimmermann, of Dusseldorf, Prussia, has issued the following certificate:

Official testimonial.—At the request of Mr. L. C. F., a resident merchant, and in reference to the opinion of the city chemist (Dr. Loock), I hereby certify that the quantity of zinc salt contained in a very large portion of apple jam made from the dried apples in question could convey into the human system about one-fifth part of zinc which may be given to infants without causing nausea. From one-half of one gram to 1½ grams of acetate of zinc, which resembles the malic acid salt of zinc more closely than any other zinc salt, are needed for an emetic for small children; with adults the fourfold quantity will hardly cause ill feeling. I therefore hold that American evaporated apples are not unwholesome, nor is there any danger incurred by using them.

From the above, it would appear that the doses consumed in one meal are not liable to cause any ill effect, and I have not, during my investigation of the matter, heard of a solitary case where illness could be proven, beyond a reasonable doubt, to be due to the use of such apples. But I did learn that a great many persons have ceased to use the American product.

In order to stop the backward movement of this promising trade, to regain the lost customers, and to expand the export of dried fruit, it is necessary that the American exporters sell a product absolutely free from zinc or any other adulterant, making this fact known to the buying public by the judicious use of printers' ink. If the apples become tainted with zinc while in contact with the drying pans, this might be avoided by employing enameled pans or screens. The use of chlorides or sulphates of zinc in ever so small a quantity as a bleach or preservative (the most probable cause of the trouble) is not needed to make the American product

equal to the German fruit, but such practices will surely harm the trade if not discontinued.

The loss may not be felt so much just now, while a moderate crop only has to be marketed, and a failure in portions of Europe has created an unusual demand. But there are additional thousands of trees coming into bearing yearly, and in times of abundant harvests on both sides of the Atlantic, the competition here will only too gladly make use of any weapon offering itself. Unjust and exaggerated denunciations can be conquered, and the market as well, if American producers and exporters choose as their maxim, "American goods, pure goods," thus paving the road for the remunerative disposal of quite a portion of the next abundant fruit crop.

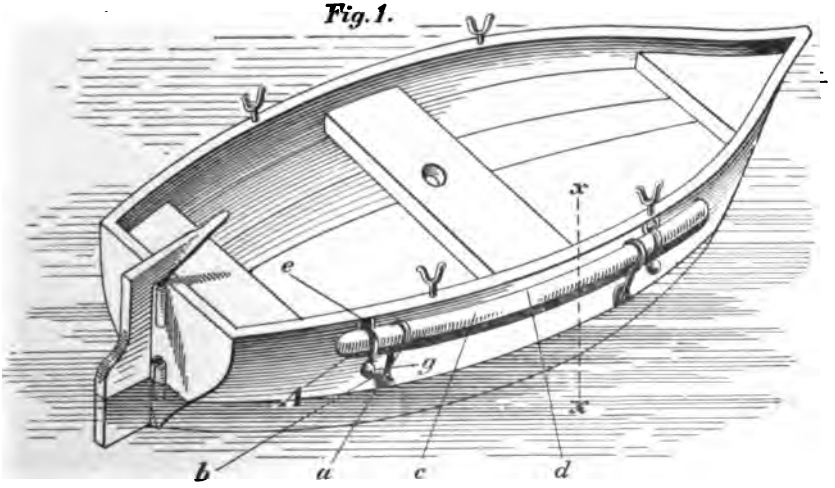
ALFRED KRAUSS,
Consular Agent.

ZITTAU, *April 2, 1895.*

APPARATUS TO PREVENT SINKING OF BOATS.

In view of the fact that terrible catastrophes at sea have recently been of such frequent occurrence, additional interest attaches to a new invention which this report aims to describe and which is of great importance, provided, of course, that all the claims of the inventor are justified. This con-

Fig. 1.



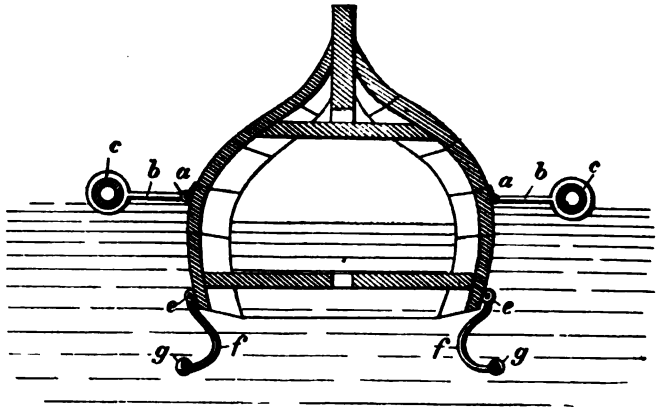
trivance is the invention of the German engineer Waldemar von Ruedinger, and consists, according to the description of technical journals, of an arrangement of floating tubes, so constructed as to prevent boats from sinking. The tubes are intended to be employed in a manner similar to that of a life-preserver and fulfill this intention by keeping even a capsized boat afloat,

so that persons in the water can support themselves by simply taking hold of the tubes. The contrivance can be attached to all boats of lesser dimensions, such as life-boats, skiffs, gondolas, canoes, etc., without in the least interfering with their locomotion. Unless a boat is made to sink by overloading it, the floating tubes, it is claimed, prevent the possibility of its filling with water. Whereas, until now, persons who had fallen into the water were unable to rescue themselves by means of a capsized boat, the latter, when supplied with the floating tubes, furnishes an excellent means of support.

Fig. 1 shows the floating tubes attached to a skiff.

Fig. 2 represents a cross section of the same boat when capsized and sustained by the tubes.

Fig. 2.



On both sides of the boat, are attached two steel eyes *a*, over which bands *b* operate and sustain the water-tight tubes *c*; the latter are furnished with an arrangement to admit air and are so attached that their center line corresponds with that of the boat. For the purpose of holding the tubes in place, bands of oval shape working in eyes and weighted at the free end *g* are attached to the boat's outer planks. By reason of this arrangement of the various parts, the capsizing of a boat becomes, it is claimed, almost a matter of impossibility. Should this occur, however, because of oversight, the weighted bands turn on their eyes, simply swing down and free the tubes. The latter, in their turn, being filled with air, also move, but in the opposite direction and float on the surface of the water; at the same time, water-tight rings of similar construction as the tubes, would turn on ball joints, and, together with the tubes, keep the boat afloat. Then all the shipwrecked persons need do would be to take firm hold of either rings or tubes.

LOUIS STERN,
Commercial Agent.

BAMBERG, *April 23, 1895.*

NEW RAILROAD TARIFF IN RUSSIA.

Since the introduction in February, 1879, of the special Government tax on passenger railway tickets (25 per cent upon first and second class, and 15 per cent upon third-class tickets), the normal passenger rate on Russian railways per verst (0.663 of a mile) has been as follows: First class, 3.75 copecks;* second class, 2.8125 copecks; third class, 1.4375 copecks. From time to time attempts were made to reduce this rate, but all that was accomplished was the following reduction in the three classes: In 1880, 3 per cent of the whole price per verst (0.663 of a mile); in 1891, 6.8 per cent of the whole price per verst. The comparatively small use of the Russian railways showed conclusively that the rate was too high. While the railway passengers carried in Great Britain, in 1891, numbered 817,000,000, in Germany more than 315,000,000, in France about 208,000,000, and in Belgium about 57,000,000, the number conveyed in Russia was only 43,500,000. It should, also, be taken into consideration that, notwithstanding the enormous distances in Russia, over one-half of the passengers conveyed did not travel more than 50 versts (33.15 miles) each, and only 6 per cent of the total traveled 300 versts (199 miles) each. The number of cars used is therefore very small. On the average, for one third-class passenger, more than two places were available; for one of the second class not less than four places—on some railways even up to twenty places—and for one passenger of the first class, not less than five places.

The zone tariff system was first introduced in Hungary, and the good results which followed its adoption there induced the Russian Government to adopt it. In the railway department, special meetings were held in February and March, 1894, by the representatives of all the Russian roads, which led to the formation of this new passenger tariff and its introduction on December 1, 1894. The most important regulations of this new tariff are the following:

The price of third-class railway tickets for a distance from 1 to 300 versts (0.663 mile to 198.9 miles) is rated as follows: From 1 verst to 160 versts (0.663 of a mile to 106.8 miles), 1.4375 copecks (one-half of one cent) per verst, including the Government tax; from 161 versts to 300 versts (106.74 to 198.9 miles), 0.9 copecks (3.2 mills) per verst. The zone tariff begins at the distance of 301 versts (199.56 miles), 20 copecks (7.46 mills) being added for each zone to the limit of 300 versts (198.9 miles), which is 3.56 rubles ($1.26).

The following shows the extension of the zones: From 301 to 500 versts (199.56 to 331.50 miles) is divided into eight zones; 501 to 710 versts (332.16 to 470.73 miles), into seven zones; 711 to 990 versts (471.40 to

* In the United States Treasury valuations of foreign coins, the Russian copeck is given the following valuations, in mills, for the years 1880 to 1894, both inclusive, viz, 6.69, 6.58, 6.58, 6.5, 6.45, 6.36, 6.01, 5.82, 5.59, 5.44, 6.8, ..., 5.26, 4.52, 3 68; on April 1, 1895, 3.53 mills.

656.37 miles), into eight zones; 991 to 1,510 versts (657.03 to 1,001.163 miles), into thirteen zones. After 1,510 versts, every 50 versts (33.15 miles) are counted one zone.

The rate for a second-class ticket is one-half, and for a first-class ticket, two and one-half times higher than for third class.

The rate for transportation for every 10 pounds of passenger's baggage is as follows: One to 300 versts, 0.0575 copeck per verst (0.663 of a mile to 198.9 miles, 0.2 mill per 0.633 of a mile); from 301 to 325 versts (199.56 to 215.48 miles), the same as for 300 versts—that is, 17¼ copecks (6.88 cents); and from 325 versts, 1½ copecks (half a cent) per zone is added to the rate for 300 versts.

The new passenger tariff makes long-distance traveling by rail very much cheaper than under the old tariff.

The following table shows the price of a third-class ticket under the old and new systems:

Distance.		Old tariff.		New tariff.	
Versts.	*Miles.*	*Rubles.*		*Rubles.*	
160	106.42	2.30	$0.81	2.30	$0.81
200	132.6	2.88	1.01	2.66	.94
300	198.9	4.31	1.52	3.56	1.25
400	265.2	5.75	2.03	4.36	1.54
500	331.5	7.19	2.54	5.16	1.82
600	397.8	8.63	3.15	5.86	2.02
700	464.1	10.06	3.55	6.56	2.32
800	530.4	11.50	4.06	7.16	2.53
900	596.7	12.94	4.57	7.76	2.64
1,000	663	14.38	5.08	8.36	2.95
1,500	994.5	21.56	7.61	10.86	3.83
2,000	1,326	28.75	10.15	12.86	4.54
2,500	1,657.5	35.98	12.70	14.86	5.27
3,000	1,989	43.13	15.22	16.86	5.95

Still more marked is the difference between certain known places, viz:

St. Petersburg to—	Old tariff.		New tariff.	
	Rubles.		*Rubles.*	
Moscow	8.68	$3.06	6.00	$2.12
Riga	8.80	3.11	6.00	2.12
Verballen	12.06	4.26	7.40	2.61
Nizhni-Novgorod	14.59	5.15	8.40	2.94
Warsaw	15.10	5.33	8.60	3.04
Kharkov	19.16	6.76	10.00	3.53
Kiev	21.16	7.47	10.80	
Odessa	26.22	9.25	12.80	
Piatigorsk	32.29	11.40	13.80	
Vladikavkaz	34.60	12.43	14.40	
Cheliabinsk	37.04	13.07	15.80	

The difference in the rates of second-class traveling is still gr[eater] fare from St. Petersburg to Verballen, second-class, which

23.60 rubles ($8.33), is now only 11.10 rubles ($3.92); to Warsaw, formerly 29.54 rubles ($10.43), it is now 12.90 rubles ($4.55); to Odessa, formerly 51.30 rubles ($18.11), it is now 18.30 rubles ($6.50). The result is, that people of small means, who had to travel long distances third class, can now go second class for less money. How little the first and second class have been used, can be seen by the following figures:

Total number of passengers carried.

Years.	First class.	Second class.	Third class.	Fourth class.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
1883	2.02	9.62	86.05	2.31
1889	1.49	7.54	88.8	2.17
1891	1.36	6.86	88.81	2.97

According to the new tariff, children from 5 to 10 years old pay, in all the three classes, one-half a full fare.

One pood (36.112 pounds) of baggage is allowed for each full ticket.

The following table shows the difference in charges between the old and the new tariff for every 10 pounds of baggage:

Distance.		Old tariff.		New tariff.	
Versts.	*Miles.*	*Copecks.*	*Cents.*	*Copecks.*	*Cents.*
300	198.9	18.75	6.5	17.25	6.1
400	265.2	25	8.8	21.5	7.6
500	331.5	31.25	11	27.5	9.7
600	397.8	37.5	13.2	33.5	11.8
700	464.1	43.75	15.4	38	13.4
800	530.4	50	17.6	42.5	15
900	596.7	56.25	19.8	47	16.6
1,000	663	62.5	22.1	51	18
1,500	994.5	93.75	33.1	69.5	24.5

The Russian railways, through the introduction of this new tariff, would lose yearly 8,816,014 rubles ($3,112,053) provided traffic remained the same. According to the former tariff, the railways earned 50,916,342 rubles ($17,973,469) from the passenger traffic, and according to the new tariff with the old travel, they can figure only on 42,100,328 rubles ($14,861,416). But it is hardly possible that such loss will occur. The experience thus far goes to show the contrary. For instance, on the Warsaw-Vienna railway in 1881–82, when a lower rate was introduced on fourth-class tickets, the number of passengers increased from 1,600,000 to 2,000,000, but as soon as the rate was advanced again the number of passengers returned to the former figures. The Griaze-Tsaritzine railway had the same experience. It made a reduction of three-fourths of a copeck per verst, and not only did the number of passengers become greater but the number of versts traveled also increased. In 1891, when the rate was reduced to the people of the needy districts, it was shown that, in comparison with 1890, the number of passengers who

used the lower rates increased by 44.3 per cent, and the number of versts traveled by 80 per cent. If the passenger traffic should increase on account of the great reduction under the new tariff in proportion to that mentioned in the foregoing cases, the prospect for the Russian railways is bright, and other countries will doubtless follow the Russian example.

At the general meeting of the representatives of the Russian railways, which was held in this city on the 22d instant, the question concerning the privileged tariff for school children was discussed and agreed to, according to the proposition of the Minister of Finance, *i. e.*, to reintroduce the lowered tariff for 1,000 versts (663 miles) for school children, traveling in the third class, which was formerly in force, but special cars to be constructed for this purpose.

It would seem, from the number of projects on foot, as if Russia were about to enter upon a period of unusual railway activity. At a meeting of representatives of important Berlin and Paris brokers, which took place in Warsaw recently, a syndicate was formed with the view of proposing to the Russian Government an extensive scheme of railway construction. The syndicate proposes to build a railway from St. Petersburg to Kiev, to rent the existing lines joining Kiev, Kazatin, and the Uman-Elisabetgrod branch, and to undertake the construction of a line from Uman, through Volnesensk, to Odessa, without guaranty from the Government.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 30, 1895.*

RUSSIAN KEROSENE INDUSTRY.

American kerosene finds its greatest opponent in the foreign market in the Russian product. The Russians, in order to meet competition, reduce expenses, wherever they see a chance, and figure very closely. The railroads assist them by giving them every inducement they possibly can, as will be seen from the following report:

The freight rate on kerosene on the Transcaucasian Railway, at first 19 copecks* per pood (36.112 pounds), was afterwards reduced to 14 copecks, and, finally, to 9 copecks (3.18 cents) for the whole distance between Baku and Batoum—732 versts (485.22 miles). Then the question was raised of extending this low rate not only to kerosene shipped for export from Batoum straight to the foreign ports, but also to kerosene passing through Odessa and the western overland stations. On July 15, 1894, the low rate of 9 copecks (3.18 cents) went into effect on all kerosene going over the Transcaucasian Railroad to the Russo-Roumanian and Russo-Austrian

*The Russian silver ruble was valued at 77.17 cents in 1874, at 68 cents in 1890, and at 35.3 cents on April 1, 1895. Without the dates of the old-rate charges, it is not possible to reduce them to American currency; for this reason only the last rate is so reduced.

frontiers. This was adopted for two reasons—(1) to assist the competition against American kerosene on the frontier regions, where a great quantity of illuminating oil is used, and (2) to cheapen the transportation to help the export trade. After this had been effected, a new obstacle arose. It appeared that, by cheapening the transport to Volochisk and Brod, and by leaving the tariff for Sosnovici in *statu quo*, the difference between the two exporting points would be inimical to the Russian railways; but if Sosnovici and Granici had been left unnoticed, there is no question that the Austrian Railways would have prevented Russia from supplying the whole Oderberg region, where there is a naphtha purifying factory; consequently, the adoption of the low freight tariff for Sosnovici and Granici was granted not only in the interest of the kerosene industry, but also to increase the income of the Southwestern and Vistula railways. The reduction of 10 copecks (3.53 cents) of the transport expenses, was a big inducement to the Russian kerosene trade on the frontier region, and proved very beneficial for the export of kerosene over the northern Russo-Prussian frontier stations. Alexandrovo and Illovo will, from the 19th of April, 1895 (Russian calendar, the 1st day of May), enjoy the benefit of the low export rates, the same as Sosnovici and all the southern custom-houses. The inclusion of Alexandrovo and Illovo in the circuit which enjoys the reduction will not have any unfavorable effect upon transportation, except to Sweden and Norway.

The German ports on the Baltic Sea have a still cheaper communication, either by the Volga, through Libau and St. Petersburg, or from Batoum, by sea, through the distributory market of Hamburg. The placing of kerosene in the western frontier regions at such a low rate over the Transcaucasian Railway was brought about in 1893, immediately after the organization of a union of the kerosene producers of Baku.

The year 1893 was a very bad year for the Russian kerosene export trade; 1894 was very uncertain, and only at the beginning of the present year was an amelioration observed in the selling prices in London, which always influences the prices of the other European markets. The average price in London last March was 58.9 copecks, gold (45.47 cents) per pood (36.112 pounds), and in April the price reached a height never known before—97.3 copecks, gold (75.11 cents) per pood being equal to 18½d. (41.4 cents) per gallon. In 1888—the best year for the export of Russian kerosene—the average price in London was 59 copecks, gold (45.55 cents) from which it gradually declined until in September, 1893, it was only 38 copecks, gold, (29.34 cents) per pood.

To make the illustration more complete, it is necessary to examine the prices of kerosene at the place of production in Baku. At the close of the year 1894, they were nearly double what they were at the end of the year 1893, and did not decline in the first months of 1895, notwithstanding the fact that the productiveness of the wells increased. This goes to show that the increased demand keeps the prices at a high level.

The following table shows the comparative prices per pood (36.112 pounds) of kerosene at Baku during the past four years and part of 1895:

Months.	1891.		1892.		1893.		1894.		1895.	
	Copecks.	*Cents.*	*Copecks.*	*Cents.*	*Copecks.*	*Cents.*	*Copecks.*	*Cents.*	*Copecks.*	*Cents.*
January	17	11.55	9.5	5.04	11	5.37	.....	.....	8.7	3.07
February	16.5	11.4	9.7	5.15	11	5.37	.....	.....	8.5	3.02
March	15	10.36	8.7	4.62	11	5.37	.....	.....	.....	.....
April	12	8.28	5.7	2.96	.....	.....	.....	.....	.....	.....
May	10	6.91	4.3	2.23	7.3	3.53	.....	.....	.....	.....
June	7	4.94	4.3	2.23	.....	.....	.....	.....	.....	.....
July	6.7	4.63	5.7	2.96	.....	.....	8.7	3.23	.....	.....
August	6.8	4.69	5.5	2.71	.....	.....	.....	.....	.....	.....
September	8.6	5.94	5.8	2.85	.....	.....	7	2.6	.....	.....
October	8.4	5.8	6.7	3.29	.....	.....	7.5	2.73	.....	.....
November	8.5	5.87	7.5	3.68	4.7	2	8	2.91	.....	.....
December	9.5	6.56	8.5	4.17	4.7	2	8.5	3.09	.....	.....

In general, there was no marked improvement in the prices of kerosene, as is seen from the above, either at Baku or at Caricyne, the main Russian distributing points, although the prices remained stable and did not fluctuate to extremes, either one way or the other. This is, without doubt, in favor of the Russian trade, and shows that the demand for kerosene is steady. Nevertheless, it must be acknowledged that the prices of Russian oil do not correspond with the prices of kerosene in the international markets. Prices began to rise at the principal consuming centers of Europe in the last six months of 1894; but this advance, which was most pronounced in September, November, and December did not reach the Russian market. Shortage in supplies always brings on an increase of prices, and the present high price of kerosene has been caused by the reduction of the output of the American wells. The fluctuation of the prices on the principal foreign exchanges will be seen from the following table:

Months.	London.						
	American (per gallon).			Russian (per gallon).			
	1892.	1893.	1894.	1892.	1893.	1894.	1895.
	Pence.	*Pence.*	*Pence.*	*Pence.*	*Pence.*	*Pence.*	*Pence.*
January	5 3/8	4 1/2	3 3/8 to 3 7/16	4 7/16	4 3/16 to 4 1/2	3 3/8 to 3 3/16	4
February	5 3/8	4 1/16	3 3/8 to 3 7/16	4 7/16	4 1/8 to 4 1/2	3 1/4 to 3 3/8	4 3/8
March	5 3/8	4 1/4	3 3/8 to 3 7/16	4 5/16	4 to 4 1/16	3 3/8	5 1/8
April	5 1/4	4 1/8	3 3/8 to 3 7/16	4 3/8	4 to 4 1/16	3 3/8	8 1/8
May	5	4 1/8	3 3/8 to 3 7/16	4 3/8	4 to 4 1/4	3 3/8	.....
June	4 7/8	4 1/4	3 3/8 to 3 7/16	4 1/2	3 7/8 to 4	3 3/8	.....
July	4 3/8	4	3 3/8	4 3/8 to 4 1/2	3 7/8 to 4	3 3/8 to 3 7/16	.....
August	4 1/2	3 15/16	3 3/8 to 3 7/16	4 1/8 to 4 1/4	3 15/16 to 3 3/8	3 3/8 to 3 7/16	.....
September	4 3/8	3 7/16	4 1/8 to 4 3/8	4 3/8	3 3/8 to 3 3/8	3 3/8	.....
October	4 3/8	3 3/8	4 1/8 to 4 1/4	4 1/2 to 4 5/16	3 3/8 to 3 3/8	3 1/8 to 3 3/16	.....
November	4 3/8	3 5/16	4 1/16 to 4 1/16	4 3/8 to 4 1/8	3 3/8 to 3 3/8	3 3/8 to 3 3/8	.....
December	4 1/2	3 5/16	4 3/8 to 4 1/2	4 1/4 to 4 3/8	3 3/8 to 3 7/16	3 1/8	.....

Fluctuations of prices on the principal foreign exchanges—Continued.

Months.	New York (per gallon).				Amsterdam (per 100 kilograms.*)	
	1892.	1893.	1894.	1895.	1894.	1895.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Florins.**	*Florins.**
January	6.45	6.17	5.15	5.95	6.00	6.80
February	6.41	6.15	5.15	6.85	5.55	7.60
March	6.48	6.15	5.15	8	5.55	8.25
April	6.90	6.15	5.15	11.50	5.60	14.52
May	6.86	5.80	5.15	.....	.....	.....
June	6.80	5.83	5.15	.....	5.70	.....
July	6.80	5.84	5.15	.....	5.80	.....
August	6.85	5.90	3.15	.....	5.70	.....
September	6.90	5.90	5.15	.....	5.80	.....
October	6.69	5.90	5.15	.....	5.80	.....
November	6.41	5.98	5.15	.....	6.10	.....
December	5.64	.....	5.45	.....	6.35	.....

* 1 florin=40.2 cents; 100 kilograms=220.46 pounds.

The rapid advance of prices per gallon in New York and London during the last three months will be noticed in the following table:

Date.	New York.			London.		
	January.	February.	March	January.	February.	March.
	Cents.	*Cents.*	*Cents.*	*Pence.*	*Pence.*	*Pence.*
1	5.8	6.05	6.85	3 13/16	4 1/16	4 5/8
2	5.8	6.05	6.85	3 13/16	4 1/16	4 5/8
3	5.75	6.05	6.85	3 13/16	.....	4 5/8
4	5.8	6.05	6.35	.....	.....	4 3/4
5	5.8	6.05	6.85	3 13/16	4 3/16	4 3/4
6	5.8	6.05	6.85	3 13/16	4 3/16	5
7	5.8	6.05	6.85	3 13/16	4 3/16	5
8	5.8	6.1	6.85	3 13/16	4 3/16	5
9	5.8	6.1	6.85	3 13/16	4 3/16	5
10	5.8	6.1	6.85	3 13/16	4 3/16	5
11	5.8	.....	6.85	3 13/16	4 3/16	5
12	5.8	6.1	6.85	3 13/16	4 7/16	5
13	5.8	6.3	6.85	3 13/16	4 7/16	5
14	5.8	6.3	7.1	3 13/16	4 7/16	.....
15	5.8	6.3	7.1	3 15/16	4 7/16	.....
16	5.8	6.3	7.1	3 15/16	4 7/16	4 7/8
17	5.8	6.3	7.1	3 15/16	4 1/2	4 15/16
18	5.8	6.3	7.1	3 15/16	4 1/2	4 7/8
19	5.8	6.3	7.1	3 15/16	4 1/2	4 7/8
20	5.8	6.3	7.1	3 15/16	4 1/2	4 15/16
21	5.8	6.3	7.1	3 15/16	4 1/2	4 15/16
22	5.85	6.3	7.1	3 15/16	4 7/16	4 15/16
23	5.85	6.3	7.1	3 15/16	4 7/16	5
24	5.85	6.3	7.1	3 15/16	4 7/16	4 15/16
25	5.85	6.4	7.1	3 15/16	4 7/16	4 15/16
26	5.85	6.6	7.1	3 15/16	4 7/16	4 15/16
27	5.85	6.6	7.15	3 15/16	4 7/16	5 1/8
28	5.95	6.6	7.5	3 15/16	4 7/16	5 1/8
29	5.95	.....	7.5	4	.....	5 1/8
30	5.95	.....	8	4	.....	5 1/8
31	5.95	.....	8	4	.....	5 1/8

On April 6 the price in New York rose to 11.5 cents per gallon, and in London to 8½d. (17 cents) per gallon. According to the Messenger of Finance, the Russian kerosene industry comforts itself with the hope that, in the near future, the American kerosene wells will weaken in the delivery of their supply, and that Russia will then conquer the European kerosene business. That newspaper says:

During the first months of 1895, the United States had to suspend the export of kerosene to Asiatic markets, and according to the most trustworthy calculations, the American kerosene wells will not be able, in the present state of productiveness, to answer all the demands of the European markets, which they have been heretofore supplying, and which, naturally, will have to be supplied to a great extent with Russian kerosene. Thus, the conditions for the export of Russian kerosene promise in the near future to become still better. But in order to obtain a correct view of the situation, one must not forget that the present sharp rise, and revival of the old-time oil speculation, were influenced only to a certain degree by the condition of the supply. This advance at the beginning was caused not only by the reduction of the production, but also by the negotiations between the Standard Oil Company and the Russian kerosene producers. Attempts have been made to agree on a division of the international markets, and during the last few days, I am informed, such agreement has been effected and presented to the Minister of Finance of the Russian Empire for confirmation. But it has been stated, on good authority, that the minister will not confirm the contract.*

It is claimed that the Russian kerosene producers may possibly receive, for the time being, some profit from the bargain, but that they would give themselves over into the hands of the Americans, and that the independence of the Russian naphtha industry, which has a great future, would suffer therefrom; consequently, that such an improvident trade policy can not be expected to receive the sanction of the Minister of Finance. Lately, on the western slope of the Ural Mountains, in the neighborhood of Ekaterinburg, new deposits of naphtha have been discovered. Some of the local capitalists have decided to develop these new naphtha fields, and have already sent a petition to the Minister of Finance to assist them in the matter.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 30, 1895.*

RUSSIA'S GRAIN SUPPLY.

The Messenger of Finance has published a comprehensive article on the probable extent of the grain supply of all countries in the "campaign" of 1894–95. The article gives the amount of the grain harvested in Russia during the past year as follows: Wheat, 424,778,000 poods (255,659,719 bushels); rye, 1,105,382,000 poods (712,794,133 bushels); oats, 558,646,000 poods (560,107,065 bushels); and barley, 228,384,000 poods (174,581,109 bushels). After deducting the quantities of grain required for home consumption, there remains for export, wheat, 221,078,000 poods (133,059,479 bushels); and rye, 97,452,000 poods (62,062,918 bushels). The data for oats and barley are wanting.

*Announcement has been made by cable that the Minister of Finance has refused his assent.

In considering foreign production, the Messenger of Finance comes to the conclusion that the wheat harvest in the export countries in the past year was approximately at the same level as in 1893; that it was very favorable in quantity but unfavorable in quality. The rye, potato, and maize harvests, especially the latter, were less favorable everywhere than in 1893, while spring crops and fodder yielded, in many places, very rich returns.

The total requirement of foreign countries for imported wheat is estimated at 731,917,000 poods (440,681,445 bushels); for rye, 134,818,000 poods (86,938,350 bushels). The total quantities for export are: Wheat, 546,059,000 poods (328,656,377 bushels); rye, 491,480,000 poods (316,932,245 bushels). There would, accordingly, remain a difference to be covered, for wheat of 185,858,000 poods (111,861,735 bushels), and of rye, 85,338,000 poods (54,852,247 bushels). To meet this difference, there are ready, of Russian rye, 221,078,000 poods (142,563,727 bushels), and Russian wheat, 97,452,000 poods (58,653,110 bushels), so that 84 per cent of the Russian wheat ready for export and 87.5 per cent of the Russian rye would be required to cover foreign requirements. The Messenger of Finance advises Russian exporters to hold back their supply, as Russia, at present, is placed in an exceptionally favorable position, the demand for Russian grain being particularly great.

The area under cultivation for winter crops in European Russia, the Caucasus, and the kingdom of Poland, has diminished to the extent of 2.8 per cent of the total cultivated area. The greatest diminution occurs in the southern governments—(12.95 per cent); followed by that of the southern Caucasus, 8.40 per cent, Little Russia, 3.90 per cent, and North Russia, 3.38 per cent.

Until now, 600, 650, 700, 750, and 800 poods (21,667, 23,472, 25,278, 27,081, and 28,890 pounds) were fixed as the weights to be carried by trucks, half trucks and platforms; now, 610, 660, 710, 750, and 800 poods (22,028, 23,344, 25,639, 27,084, and 28,890 pounds) are permissible. The first three types are allowed an overfreight of 10 poods (361 pounds), and the two last of 15 poods (542 pounds).

The military governor of Nikolaev and the town council are petitioning for the enlargement of the harbor. Its natural conditions and good situation would seem to call for such enlargement.

In the spring of next year, the first dairy school will be opened in the Caucasus upon the estate of Prince Lobanov-Rostovsky (present Minister of Foreign Affairs), in the district of Piatigorsk. The Ministry of Agriculture is ready to support the school, of which the Caucasus is in urgent need.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 11, 1895.*

THE TRADE OF CHINA AND JAPAN.

A report on the trade relations of China would not be complete without a preliminary reference to the civil government of Shanghai, the principal city of the Empire.

CIVIL GOVERNMENT OF SHANGHAI.

Civilization does not recognize the possibility of a permanent and flourishing commerce in the absence of adequate guaranties for securing and protecting rights; and when the enterprising Saxon rescued from the invasion of the waters the land on which the city of Shanghai now stands, he was not unmindful that to make it the metropolis of Asiatic commerce, the foundation stone must be laid deep in the principles of Saxon jurisprudence; and it is this idea that governs the treaties between China and foreign nations and forms the basis of the municipal code of the city.

It is better known that the representatives of foreign nations, having treaties with China, administer the functions of their office within her territory to the extent of hearing and determining all cases in which their nationals may be defendants; but this would not be wholly effective as a safeguard to foreigners if unaided by the wholesome influence of the municipal council and the municipal police—the moral regulators of society. It is the regulations of these last offices, and the uniform competency of those who fill them, that reach nearer to the foreign residents, and assure the protection that encourages the industrial enterprises which fill the port with ships from all climes and make known throughout all lands the fame of its commercial progress.

A citizen of the United States, charged as defendant in a civil or criminal action in China, has his case heard by the representative of his own country and is amenable to the judgment of such representative, with the right, in certain cases, of appeal. But should a foreigner, whose country has no representative in China, violate the civil or criminal law while in China, he is exempt at Shanghai from trial by the courts of China. If he resides in the foreign settlement at Shanghai, the complaint against him would be heard by the mixed court, and there determined, unless he should be arraigned for a capital offense, and even then, a full and open examination would be had by the mixed court before commitment to the native court for final trial.

There are two mixed courts at Shanghai—one whose sittings are in the French settlement, in which a citizen of France presides with a Chinese magistrate, and is called the French mixed court; the sittings of the other are in the British settlement, and is called the English mixed court, in which, alternately, preside with a Chinese magistrate the vice-consul-generals of the British, American, and German consulates-general. The difference in

the jurisdiction of the two mixed courts may be thus indicated: An offense committed in the French settlement by a foreigner, without a consular representative, is heard in the French mixed court; if committed in the British and American settlements by such foreigner, it is heard in the English mixed court. If the foreigner has a consular representative, or a representative of the interests of his country, and resides in the French settlement, the representative of France at Shanghai claims that the warrant or summons against such foreigner can only be executed under his endorsement. But if this claim of the French representative should be admitted, it would still give the representative of the country of the foreigner, or the representative having the interests of his country in charge, the right to hear the case, or have it heard in his presence, in the English mixed court. If, as stated, the country of the foreigner is not represented in any capacity, and he is charged with a capital offense, the preliminary examination is conducted in one of the mixed courts.

The principle here stated is so far practically admitted by China that a Chinese residing in either of the settlements can not be arrested or summoned, except on complaint made to the senior consul, who must sign the warrant or summons, and should the Chinaman, against whom the charge is made, reside with, or be in the employment of, a foreigner, the warrant or summons can not then be executed before being indorsed by the representative of such foreigner.

There are two municipal councils, each having its own police force. One is for the French settlement exclusively, and exercises no supervision outside of that settlement; the other is for the British and American settlements, and exercises the usual functions of such institutions in these two settlements.

The police force of the French settlement is under the direction of the French municipal council, and the police force of the British and American settlements is under the direction of the English municipal council.

In addition to the safeguards indicated, there is at Shanghai a well-organized military company, composed entirely of foreigners, and representing the several branches of a regular army, efficiently equipped as infantry, artillery, and cavalry, and regularly drilled, evidencing that legal justice, when asserting her prerogatives, if need be, would have the support of the sword.

It is in this way that the independence, the inviolability, the neutrality of Shanghai are protected, and homes made sacred from intrusion and espionage.

MONEY AND COMMERCE.

The recent monetary changes is the subject which has had the primary attention of the business world, and in writing of the commercial relations of Asiatic countries, its economical bearing merits special attention.

The wealth of a nation is the margin between the cost of producing an article and its price. It is this margin that constitutes the wealth of agricul-

tural and manufacturing countries. The merchants, bankers, and general traders are more concerned with the gains and losses of exchange operations between countries having different standards of value, but the producer and manufacturer are more concerned with the uniform international value of money.

For one-half of the world to use gold as money and the other half to use silver, necessitates a rivalry in commercial relations in which the cheapness of labor enters as a potential element of success. Such rivalry is made energetic and effective by the improved means of commercial intercourse. The Occident and Orient are no longer separated by impassable seas. Steam and telegraph have bridged, as it were, the largest sea of the world, and the prices which rule in Occidental markets are posted in the capitals of Japan and China as early as they are posted in the exchanges of London and New York. Can there be a stronger argument in favor of an international standard of value than this fact? And to point out the probable effects of the want of such a standard is within the province of a trade report.

COTTON, COTTON GOODS, AND COTTON MILLS.

China is America's largest market for domestic cotton goods. In 1892, China imported from the United States 65,859,000 yards of domestic cotton; in 1893, she imported only 27,706,000 yards. These figures are taken from the statistical abstract of the United States for 1893, and they show a falling off in this one item in one year of 38,153,000 yards.

The annual statement of the trade of the United Kingdom for 1893 also testifies to the material loss in the importation by China of cotton yarn and domestic cottons from Great Britain. In 1892, China imported British cottons to the quantity of 497,475,000 yards, and in 1893, only 365,405,000 yards. The changes in the number of yards of this commodity imported during 1894 from the countries named do not affect the application of the principle I wish to present for consideration in this connection.

The cause of the falling off, indicated in the importation of domestic cottons, will not appear in the ordinary rules governing trade, and, as regards the United States, the loss is so marked as to excite anxiety. The study I have been able to devote to the subject, and the information derived from the most reliable statistical reports bearing upon it, influence the opinion that one of the main causes lies quite beneath the surface.

I advance the opinion that the manufacture of cotton goods by China and Japan promises to decrease the importation by these countries of such goods from the United States.

In the report of the Yokohama Chamber of Commerce, dated May 14, 1894, it appears that the first spinning mill erected in Japan was erected in 1883, with 5,456 spindles. At the end of 1883, there were 16 mills, with 43,700 spindles; at the end of 1888, 24 mills, with 88,140 spindles; at the end of 1892, 39 mills, with 403,314 spindles; 1893, 46 mills, with about 600,000 spindles.

No statistics relating to the cotton mills of China have been published so full as those relating to the cotton mills of Japan, but such as have been published evidence an increase in the number of mills and spindles. The large local cotton mill at Shanghai, destroyed by fire in 1893, has been rebuilt and is now conducted on a larger scale; and it is the opinion of conservative business men that the end of the present year will witness in full operation at least 360,000 spindles and 3,000 looms, besides numerous cotton gins ready to operate in the fifteen cotton mills in course of construction at Shanghai, Ningpo, and the ports on the Yangste River.

The number of pounds of cotton annually produced in China has not been accurately given, but the production is annually increasing, and the soil and climate in many parts of the Empire are favorable to raising a much better staple than is seen in the markets. Much of the cotton raised in China is taken by the cotton mills of Japan, but as the new cotton mills are erected in China, these will consume the greater part of the home supply, forcing Japan to look to other fields for raw material for her mills.

Japan, by geographical position and the nature of the soil and its general aspect, must be the manufacturing country of Asia, as Great Britain has so long been for Europe; and this fact brings nearer to the attention of the cotton producer of the United States the importance of shorter ways between their cotton fields and the cotton mills of Asia, especially by means of the Nicaragua canal.

The rapid increase in the manufacturing industry of Japan and China could not be sustained in the absence of a compensating remuneration, and if the statistics show the remuneration to be compensating, then the means of making it so should be inquired about. It is known that the manufacturing industry, generally, of the United States has not yielded merited returns for the labor and skill of those engaged in it.

Osaka is the great manufacturing city of Japan. In Osaka, twenty-one mills paid an average dividend of 18 per cent, the highest dividend being 28 per cent and the lowest 8 per cent. The dividends for 1893 are given at 12 per cent, and for the first six months of 1894, at the rate of 16 per cent. These figures show that the cotton mills of Japan are richly remunerative, while reliable figures show impoverishing returns for the cotton mills of Great Britain, and an unfavorable lookout for those of the United States.

The London Economist of February 17, 1894, presented the balance sheets of ninety-three spinning companies in Oldham, England, showing a net total loss of £72,768 ($354,089) in 1893, with the discouraging information, comparatively, that, at the end of 1890, only eight of these companies had adverse balances.

In the United States, the freight charges on cotton from the cotton fields to the great mills of the North now enters so largely as an item in their balance sheets as to make the removal of the mills to the places of production a subject of serious consideration. Wages and freight are ominous items in the balance sheets of the cotton mills of the United States and Great Britain,

and are the items which the prudent business man will keep constantly before him. There is something wrong when comparative tables show results so adverse to the industry and skill of the two nations which have heretofore easily moved in the van of the manufacturing progress of the world. The results must be admitted, and it is the province of the economist to find the remedy.

CURRENCY AND LABOR.

It is here that the subject of wages should receive careful attention; and it should not be forgotten that while the law of supply and demand, with regard to commodities, is international, it is only national, and often provincial, with regard to labor. A bale of cotton may have the same exchangeable value in New Orleans, Liverpool, or Bombay, but the price of a day's labor in Bombay bears no relation to the price of a day's labor in Liverpool or New Orleans, and no adjustment of the two opposing principles can be effected unless a cargo of coolies can be imported as easily as a cargo of cotton.

An intelligent understanding of the influential agency of the price of labor in regulating the profits of manufacturing enterprise may be had from this illustration: In 1873, the mills of the Orient and Occident were competing on equal terms and receiving equal returns. Now, in 1894, each mill employs the same amount of labor as it did in 1873; but the owner of the mill in the United States pays for the labor in gold at the old rates, while the owner of the mill in Japan pays for labor in silver at the old rates also. The Japanese mill owner paid in 1894, as he did in 1873, from 18 to 20 cents a day for men, and from 8 to 10 cents a day for women. That meant, in 1873, from 18 to 20 cents in gold a day for men and from 8 to 10 cents in gold a day for women. Now, during the greater part of 1894, $1 in gold has been about equal to $2 of Japanese silver, which makes it clear that, on account of the depreciation of silver alone, without taking into account the low rate of standard wages which prevail in the Orient, the mill owners of the United States are now paying twice as much for labor as the mill owners of Japan. This may be one reason why the cotton mills in Japan are showing such handsome returns, while in the United States and Great Britain, they are comparatively struggling for existence. Not only does this principle of the difference in the value of currency in which labor is paid in the eastern and western countries apply to wages, but it applies to whatever is essential to the success of agriculture and manufacturing enterprise.

It is not meant to intimate that the price of labor in the United States should be regulated by the price of labor in Oriental countries, but I do mean that unless some standard of international value for the payment of labor is agreed upon, the products of the Oriental laborers tend to become a dangerous rival to the products of the Occidental laborers. The statistics and logical comparisons therefrom here adduced at least warrant the expression of such an opinion. It is justified by other well-authenticated facts, considered in other connections, but all pointing to the same conclusion.

If the land acquired twenty-five years ago by foreigners at Shanghai for their residence and business houses was then worth $25,000,000 and was now sold for what it originally cost in silver, and this silver, the proceeds, was converted into gold, at present rates, there would be a loss of about $12,000,000; and, by this rule, it appears that the inequality in the value of silver and gold has reduced the gold value of property here one-half.

I am not writing in favor of a gold or silver standard, but I am adducing facts which should awaken greater attention—better still, more decided action—in favor of a permanent or more equalizing adjustment of the value of silver and gold as purchasing mediums. Silver is used by one-half of the world and gold by the other half, and while wages in one-half are paid in a depreciated currency, and in the other half in an appreciated currency, a rivalry between the respective products of the labor of each is encouraged, with the advantage in the outset to the products of the laborer paid in depreciated currency, especially when the latter can supply his daily wants with such a currency, which he willingly receives and remains contented. Such apparent advantage is no longer offset by the superiority of the machinery heretofore employed in manufacturing, which was confined to the half of the world now using gold. The same grade of machinery which, a few years ago, gave superiority to the cotton mills of the United States and Great Britain is now used in the cotton mills of Japan and China, and the enterprise that transplanted it to those countries sent with it foreign skill and ingenuity to superintend and utilize its capacity.

In approaching Shanghai, the banks of the Woo-sung River are thoroughly modern, not only in appearance, but made so in reality by the large manufacturing establishments that beautify, with the proofs of a wide-awake energy, the first sight of a city whose tonnage ranks ninth among the commercial centers of the world.

China not only imports the most improved machinery for her cotton mills, but machine shops in China now make the machinery for the smaller steamships used in her coasting trade, and this with imported steel and iron, because of the cheap currency in which laborers in China are paid.

The enterprising Japanese have, within a few years, established docks and machine shops for the building of medium-sized war ships, and each subsequent year has witnessed fewer orders going to foreign markets for naval supplies. Soon, from the naval shops of Japan, will be launched as strong war ships as breast the waves of Asiatic seas; and ere a distant year, the forces of civilization which have moved Japan so rapidly on lines of progress will be actively and practically at work in China. The awakening of the "middle kingdom," here predicted, will put to sleep forever the customs which have for centuries dominated China, as it will call into life new principles to govern her foreign and domestic relations. The thoughtful statesman and merchant will prepare for the solution of the new political and commercial problems. These problems are now claiming the attention of the

business men of Great Britain, and the fact that the China Mutual Steamship Navigation Company, of London, is having its vessels repaired in China and Japan is regarded as being of serious significance to British labor and as an evidence of its being displaced by the cheaper labor of China and Japan. At a recent meeting of the Peninsular and Oriental Steamship Company, the belief was expressed by a member that gentlemen then present might live to see the company's mail steamers built on the Yangste, in China, instead of on the Clyde, the Tees, or the Tyne. And it is worthy of note that the large majority of the sailors and servants on the foreign steamships that carry the mails across Oriental seas are of the Asiatic races, their employment being due to the cheapness of their wages, for an Asiatic works to-day at one-half of the wages in gold, though at the same wages in silver, that he did twenty years ago, whereas, wages in the United States and Great Britain have not materially depreciated from the wages paid in gold twenty years ago. As to commodities in Great Britain and the United States, the average prices are the lowest of the century, while the average prices, comparatively, of twenty leading commodities of Chinese production, were nearly the same in Shanghai in 1893 as they were in 1873, and a higher degree of prosperity in China and Japan has accompanied this stability in prices.

GENERAL TRADE.

The foreign trade of China for 1894 is interestingly presented in the report of Mr. Kopsch, of the imperial Chinese customs service.

Notwithstanding the plague of last year, the war and the consequent obstructions at the entrances of Chinese ports, and the withdrawal of thousands of the industrial classes from peaceful pursuits, the total value of the foreign commerce of China for 1894 was greater than ever before. It amounted to 290,307,433 taels ($219,907,880*), against 267,995,130 taels ($249,235,471) in 1893 and 139,908,438 taels ($190,275,476) in 1884. The customs receipts, being an infalliable test of the condition of trade, also indicate a most healthy state, as the gross collections for 1894 amounted to 22,523,600 taels ($17,084,352), against 21,989,300 taels ($20,450,049) in 1893, a difference in favor of 1894 of 534,300 taels [but a difference of $3,365,569 in favor of 1893], and, with the exception of opium, the contribution to this sum came from each division of trade. The customs receipts for no year, except the year 1891, ever exceeded the year 1894.

With reference to foreign trade Mr. Kopsch writes as follows:

> As regards textiles and other staple imports from gold-standard countries, it can not be said that there is any indication of recovery from the retrograde movement, ascribed to the appreciation of gold enhancing prices and curtailing demand, which characterized the trade of 1893. In the last report, reference was made to the blighting effect of high prices on con-

* Reduced in the Department from taels to dollars. According to the United States Treasury valuations of foreign coins, the Haikwan, or customs, tael averaged as follows: 1894, $0.7575; 1893, $0.93; 1884, $1.36. It will be seen that, while the imports of China in 1894 exceeded that of 1893 to the amount of 22,312,307 taels, the value of the imports of 1894 when reduced to American currency fall below that of 1893 to the extent of $29,327,591, thus reversing the favorable balance given by the consul-general.

sumption, notably at the great inland emporium of Chungking, in Szechuan, from which new port such great commercial results were expected, as by opening it to foreign trade all imports could be laid down, at a distance of 1,500 miles from the coast, without prepayment of the 2½ per cent tariff duty, or transit dues, chargeable prior to its being made a port of entry. As will be seen from the Chungking report, so far from the opening of that market creating an increased demand for cotton goods, the effect of the depreciation of prices had produced a contrary result, for the importation of piece goods has receded from 775,000 pieces, upon which half tariff transit dues were paid, in 1890, to 542,000 pieces, though now free from that charge. Steadier but lower exchange benefited exports, and enabled shippers of India produce to lay it down in gold-standard countries at unparalleled low cost. Several articles now find a market abroad which formerly did not leave China, and the present high price paid for gold bars entitles that commodity to rank after tea and silk in aggregate value of any article enumerated in the table of exports.

It certainly can not be expected that the consumption of foreign fabrics will attain to the level recorded when the exchange was high, unless the gold value of silver improves and tael prices are thereby reduced to rates within the means of eastern consumers.

It is true that imports show an increased value of 10,740 taels over those of 1893, but in a great measure the value of these was enhanced by the further appreciation of gold. As regards the import of piece goods, Mr. Kopsch's forcible remarks can not be too closely taken to heart. He says:

The total quantity of piece goods imported advanced insignificantly, although shirtings and American drills and sheetings exhibit a considerable increase; but it would be delusive to infer from these improved returns of certain classes of goods that the falling off caused by the appreciation of gold, which characterized the trade in cotton of the previous twelve months, had been arrested. Reports from inland marts affirm that the sales of Manchester goods are restricted, and, although special requirements, such as demand for army supplies, may have created a temporary abnormal stimulus and induced larger orders, the result is merely an increase in the aggregate importation of all varieties of cotton goods, namely, 14,057,000 pieces, or only 124,000 pieces over the exceedingly low aggregate—13,933,000 pieces—of 1893. Moreover, unsold stocks at the end of 1894 were unusually large, as the anticipated consumption was overestimated. That the China markets for cotton should prove so singularly inexpansive is ascribed to the high price of textiles, caused by low exchange, This contention is at least supported by statistics, which show that in 1890, when exchange averaged 5s. 2d. per Haikwan tael, the offtake of cotton goods reached, say, 17,400,000 pieces, and 18,600,000 pieces in 1891; but on the tael declining to 3s. 2d., the importation dwindled to under 14,000,000 pieces, the rise in price placing these goods beyond the reach of millions of consumers. Yet, during the five years 1890–94, the area of consumption was extended by the opening of custom-houses in three immense provinces—Yunnan, Kwangsi, and Szechuan—each as large as a kingdom in Europe.

Commenting upon Mr. Kopsch's report, the North China Daily News, one of the representative English journals in China, says:

The export trade, in all branches, of course, benefited considerably by the low rate of sterling exchange, and Mr. Kopsch points out that under existing conditions there is every prospect that Chinese wool "may, when improved in quality, become a formidable rival to the Australian product, for, as a wool-growing country, the resources of China are still undeveloped, and the area of production north of the Yangtse River and in Mongolia is as vast as that of the colonies; and with silver at the present price, China would defy competition from all gold-standard countries." There was a noteworthy improvement in the tea trade,

and we know that business in fine teas proved very remunerative; for, though a higher price had to be paid here than was the case in 1893, the fall in exchange covered this, and as there was no corresponding fall in gold prices in England and the United States, the trade in China reaped the benefit. The export of white raw silk shows a considerable advance, but there was a falling off in that of yellow silk; and while the export of white raw silk continued to be large, that of refuse silk in 1894 surpasses all previous records. The straw-braid trade continues to expand, and now an enormous business is done in what is denominated as "muck and truck," which clearly shows that despite the loss of China's monopoly of the tea trade, and the greatly diminished revenue entailed thereby, the resources of the soil and the ability of the people of China are equal to producing many other products to fill the gap, as the large export duties for 1894 show. The shipping trade during the year was satisfactory, and the entries and tonnage employed show a considerable advance over 1893. The value of the gold exports, so far as it came under the notice of the customs, amounted to the very large total of 12,774,000 taels ($9,650,550), equivalent to £2,044,025, which far exceeds that of any previous year, and it is supposed that it was largely the result of the disposal of hoardings which the high price of gold tempted the owners to part with. The importation of silver bullion and "sycee," (uncoined lumps of silver) was 37,120,000 taels ($28,118,400), against 20,687,000 taels ($19,238,910) during 1893; shipments of "sycee" were about the same as the previous year, and adding together the value of gold and silver bullion, inwards and outwards, the result gives a net importation for the year of 13,613,000 taels, against 2,945,000 taels in 1893.

PARTICULAR PORTS.

The fluctuations of trade at certain ports of China are more recently indicated by the customs returns for the quarter ending December, 1894. These returns are also interesting as showing to what extent war between China and Japan probably enters as a factor in trade.

Shanghai.—As Shanghai is the great distributing center for China, it is at this port the effects of the war upon trade should be more apparent. It appears from the returns that the Chinese flag has practically disappeared from the shipping of the port, there being 46 entries, of 49,000 tons, only. At the beginning of the war, several of the China merchant fleet were transferred to foreign flags, and from time to time, other transfers have been made until scarcely a vessel of that magnificent fleet, which reflected so much credit upon the commercial name of China, can now be found floating the Chinese flag. Foreign ensigns now wave from the mastheads from which a few months ago waved the dragon flag. However, the aggregate shipping entering the port has only immaterially decreased from 801 to 792, while the tonnage has increased from 830,000 to 855,000. Of this increase in the table of imports, cotton goods held a favorable place, with the exception of American sheeting, with which the market seems to be oversupplied. The principal item in which there has been a decline is kerosene oil, of which only 2,225,000 gallons arrived, against 6,000,000 gallons in the corresponding quarter of the previous year. The encouraging feature of the statistical table is removed when the quantity distributed to other ports for consumption is examined. The decrease here is marked. In the article of gray sheeting alone, there was a decrease from 730,000 pieces to 592,000 pieces; English sheeting, from 289,000 pieces to 152,000 pieces. The falling off in

cotton yarn from 132,000 piculs* to 100,000 piculs is another additional item of depressing influence. The decline in the exportation of raw cotton from 360,000 piculs to 295,000 piculs is directly due to the war interfering with shipments to Japan, while the increased exportation of waste silk, sugar, skins, and wool evidence the reserve energy of trade which, on certain lines, even the war has not affected. While the decrease in revenue is scarcely appreciable, the exportation of gold is less, probably due to warlike operations in the north, the closing of Tien-Tsin and Niuchwang by ice; but a large amount of silver bullion remains in port, supposed to be the result of war loans and subsidies.

Tien-Tsin.—There has been a decrease in imports, but the demand for skins and rugs has stimulated the export market and the revenue of the port shows an increase. The returns show the entry of foreign flags only, covering 179 vessels, of 151,200 tons.

Chefoo.—The fluctuations in trade are decidedly marked. The importation of cotton goods shows a decrease from 156,000 pieces to 56,000 pieces, and cotton yarn from 19,000 piculs to 8,600 piculs (2,533,333 pounds to 1,146,606 pounds). The export market was in better condition, which causes but a slight difference to appear in the several receipts.

Niuchwang.—Trade at Niuchwang is similarly embarrassed as at Tien-Tsin during certain months by the closing of the river by ice, and there was a falling off in the importation of cotton piece goods from 130,000 pieces to 22,000 pieces. The comparative difference in the exports are immaterial, but there was a material shortage in the revenue. The Chinese flag disappeared from the port, and the tonnage fell from 130,000 tons to 97,000 tons.

Chungking.—The regulations which, in 1893 and part of 1894, trammeled the trade of Chungking have been modified, and the beneficial effect is evidenced by an increased import trade surpassing the largest for any preceding quarter in the history of the port. A continual increase appears in the exportation of medicines, rhubarb, white wax, and sheep's wool. Opium, to the amount of 550 piculs (73,150 pounds) was exported for the corresponding quarter of 1891, and to the amount of 2,365 piculs (315,254 pounds) for the quarter under consideration.

Hankow.—The imports and exports at Hankow are also on the decrease. The decline in cotton goods was from 470,000 piculs to 392,000 piculs (62,666,660 pounds to 52,272,667 pounds), and woolen goods and metals show a proportional decrease. In kerosene oil, there was a falling off from 2,150,000 gallons to 1,450,000 gallons. The exportation of beans fell from 273,000 piculs to 58,000 piculs (32,209,000 pounds to 7,731,400 pounds), and the falling off in revenue of 25 per cent adds another feature of discouragement to a statistical table which shows scarcely a single item of increase.

Kiukiang.—The table shows an increase in nearly every item. This city is noted for the skill of its workmen in silverware. Tea sets and trays of all

*1 picul = 133⅓ pounds.

patterns can be had on short order, and at comparatively reasonable prices. The productions of the silversmiths are skillful and beautiful. The imperial potteries are near Kiukiang, at which the best porcelain of China is made.

Chin-Kiang.—The increase in the trade of Chin-Kiang was largely due to a regulation of the Chinese Government which forces nearly the whole of the rice trade of Wuhu to Chin-Kiang, which caused the export of rice at the latter port to increase from 30,000 piculs to 1,150,000 piculs (3,999,000 pounds to 153,295,000 pounds), but the general trade of Chin-Kiang has languished.

Ningpo and Wenchow.—Ningpo and Wenchow, the coast ports dependent on Shanghai, do not appear to be progressing; and Fuchau shows a decline, cotton piece goods declining from 65,000 pieces to 57,000 pieces.

Other ports.—There was a decline at the port of Formosa, but at Tamsui there were imported 44,000 pieces of cotton cloth, a fact that deserves special notice. The changes at Amoy and Swatow were not unfavorable, except the item of opium, which showed a decline of about one-third. Canton, like most of the other southern ports, also shows an increase, except in opium, in which there was a considerable decline. This decline in the importation of opium should not be understood as unfavorable to the use, but rather as indicating an advance in the cultivation of the poppy in Kwantung and Fuhkien.

AMERICAN-CHINESE TRADE.

The geographical positions of China and the United States favor closer and more valuable trade relations. The large population of the former invites the produce of the latter, and China is a nation whose present and future wants merit the attention of the business men of the United States. The naval and other displays, on Oriental seas and lands, by the nations of Europe have doubtless impressed Asiatic races most favorably, while the modest presence of the United States excites respect for its wealth and power only among a people who know of its unsurpassed greatness.

I am aware that still waters run deep, but history and experience alike teach that Asiatic races receive their impressions of nations in great part from what they see. I have no doubt the desirability of cultivating commercial relations with the United States would be increased if the principle here mentioned received more serious attention.

The six modern war vessels now carrying the flag of the United States in Chinese waters have produced a most favorable impression, and the promptness of their presence at places of anticipated danger has greatly encouraged Americans to feel the security which they well know is a part of that willingness of their country to extend and guaranty, but which the absence of sometimes prevents. Prior to the war of the rebellion, the navy of the United States was among the first of the world. The well-marked lines and the efficiency of an American man-of-war excited universal admiration, and it was then that the merchant marine of the United States was freighted with the richest productions of all lands. American "clippers" then filled

the open ports of China, and their coming and going meant wealth to American merchants. True, the principles applicable to conducting business in those days do not apply at present, but even with changed conditions, why could not favorable results be still achieved?

In Japan and China, I am not aware of the publication of a single journal or newspaper under American influence. The leading foreign journals in these countries are under British influence, and whatever concerns British interests is advocated and given prominence. This is to be commended, and is an example that Americans might follow to advantage. The rapid progress of Japan in the highways of civilization prepare the Japanese for the impressions which a progressive people ever receive from the press, and China will soon begin her march along these highways. A revolution in the civilization of these two countries is busily at work, expanding on new lines of enlightenment, and lighting up the dark places with a hope which has never been felt before.

At a time when events are rapidly following events, all pointing unerringly to untried fields of industrial development, America should not fail to recognize the agency which has been so potential in the development of her own civilization, the promoter and the defender of liberty, and the great factor in making known the results of American genius, skill, and industry. There should be at Yokohama and Shanghai a journal whose office it should be to make known the latest American inventions for the alleviation of the hardships of labor and the advantages of productions of the United States. The cost of sustaining two journals of the character named would be infinitely less than the postage paid on circulars sent to China and Japan by United States manufacturers and merchants, and the influence exerted would be far more favorable. This recommendation may seem novel, but the practical results would probably prove satisfactory.

T. R. JERNIGAN,
Consul-General.

SHANGHAI, *April 10, 1895.*

REVIEW OF CHINA'S TRADE.

The customs returns of trade for 1894 require some analysis to be correctly understood. Taken in gross, they indicate a prosperity which was not anticipated.

EXCHANGE.

Exchange has continued to fall. The Haikwan tael in 1893 averaged 3s. 11½d., and in 1894, 3s. 2⅜d. Compared with the gold dollar the tael, in 1893, averaged 96 cents, and in 1894, 77 cents. In 1892, the average value of the tael was 4s. 5½d., and, as compared with the gold dollar, $1.07.*

*The Haikwan or customs tael was valued by the United States Treasury Department, for the years 1892, 1893, and 1894, respectively, at $1,046, $0.93, and $0.7575. The reductions, from Chinese taels to dollars, throughout this report were made in the Department and at the rates given by the United States Treasury, instead of those given by Minister Denby.

The continual cry in China has been that the fall of exchange would destroy eastern trade. The figures in these returns tell a different story. It would seem that trade, in principle, is really barter—an exchange of imports for exports—and that it readily adapts itself to fluctuations in currency. No doubt, the uncertainty of the value of the circulating medium tends to alter the mode of doing business, but these returns tend to show that this does not necessarily affect the bulk or profitableness of the business. In China, for example, this uncertainty has led to quick and rapid transactions. Great stocks of goods are no longer held, as was formerly the custom. Sales, I notice, sometimes take place on the docks as soon as the goods arrive.

Formerly the importer took all the risks of exchange and market. In the new style, the banks take the risks of exchange and the merchant the risks of the market. This system would have been profitable for the merchant had not the war checked demand and caused goods to rise.

OPIUM.

The figures for 1893 show that the quantity of opium imported decreased 2,674 piculs (356,444 pounds). The figures for 1894 show a further decrease of 4,983 piculs (664,400 pounds). This decrease is commonly charged to the fall in exchange, but this is by no means sure. The tea trade between England and China has diminished, but undue taxation in China is said to be the cause of the decrease. Indian-grown opium pays to the Government of India some 12,000,000 taels ($9,090,000, 1894 valuation), and to China as import duty 6,000,000 taels ($4,645,000). It is plain that the native-grown article, which pays less than one-sixth of this duty, has a great advantage over its Indian competitor. The returns further show that while the importation of opium has decreased, the general export trade from India to China has increased largely—from 16,700,000 taels in 1893 to 19,900,000 taels in 1894.($15,631,000 to $15,074,250.)*

TRADE WITH THE UNITED STATES.

The total value of the trade between China and the United States for 1893 was as follows: Imports into China from the United States, 5,443,569 taels ($5,062,519); exports from China to the United States, 11,725,644 taels ($10,642,519). The figures for 1894 are, for imports, 9,300,000 taels ($7,044,750) and for exports, 16,400,000 taels ($12,423,000).

An ingenious writer in the Shanghai Mercury makes the following observations:

The trade with the United States has been influenced by tariff, rather than exchange, considerations. It is, unfortunately, difficult to arrive at correct figures, a large portion of this trade centering in Hongkong. The fluctuations are, however, noteworthy both in imports and exports. Beginning, as before, with 1887, and counting in millions, we find the advance

* It will be seen that the increase here noted by Minister Denby was only an apparent increase (in tael values), for, reduced to American money, owing to the decreased value of the silver tael in the interim, the imports of 1894 were less than those of 1893.

in imports represented by the following figures: Three millions three hundred thousand taels* ($4,290,000), 3,100,000 taels ($3,565,000), 3,800,000 taels ($4,370,000), 3,700,000 taels ($4,699,000), 7,700,000 taels ($7,777,000), 6,000,000 taels ($6,276,000), 5,400,000 taels ($5,022,000), 9,300,000 taels ($7,044,750). Compared with the regular line of advance of British trade, we have to notice here two abrupt breaks. The first between 1890–91 was coincident with the passing of the McKinley tariff. That act closed the markets of all the world generally to the United States manufacturers by raising up retaliatory tariffs. A larger speculative export to China was the consequence, which clogged the markets, imports rapidly diminishing from year to year. The next event is between 1893–94, and is likewise coincident with a change of tariff, following on the heels of the Wilson bill of 1893. The exports, although showing a natural tendency to increase with the growth of the population of the United States, still show marked fluctuations on the same lines. Taking them as before, they are: Eight millions nine hundred thousand taels ($11,570,000), 8,900,000 taels ($10,235,000), 7,000,000 taels ($8,050,000), 8,200,000 taels ($10,394,000), 9,000,000 taels ($9,090,000), 10,800,000 taels ($10,460,000), 11,800,000 taels ($10,974,000), 16,400,000 taels ($12,423,000). A depression marked the years 1889 and 1890, again coincident with the McKinley tariff, while a sudden spring in the last year unmistakably coincides with the passage of the new Wilson tariff.

GENERAL TRADE.

The totals of trade show an increase over 1893. That year the total was 267,995,130 taels ($249,955,176). In 1894 it was 290,307,433 taels ($219,907,880). The imports grew from 151,400,000 taels ($140,802,000) in 1893 to 162,100,000 ($122,790,750) in 1894, and exports from 116,600,000 taels ($108,438,000) in 1893 to 128,100,000 taels ($97,035,750) in 1894.

TRADE WITH FOREIGN COUNTRIES.

Japanese trade.—There can not be any doubt that Japan has gained by low exchange. Her trade in 1893 amounted to 17,200,000 taels ($15,996,000), and in 1894, to 18,400,000 taels ($14,695,500). Greater increase was no doubt checked by the war, as trade with Japan has been rapidly increasing since 1887, when it amounted to only 7,700,000 taels ($10,010,000).

British trade.—British trade has substantially increased. In 1894, the tonnage rose from 65½ per cent of the whole to 69.2 per cent. Foreign trade from 57 per cent to 59½ per cent, and coast trade from 56 per cent to 62¼ per cent.

German trade.—German trade has risen from 7.8 per cent to 9.1 per cent.

French trade.—French trade has risen from 4.8 per cent to 5.1 per cent.

American kerosene-oil trade.—The kerosene-oil trade continues to increase. In 1894, there were imported 19,698,000 gallons more than in 1893, of which increase 14,950,000 gallons were American and 4,748,000 gallons Russian. I have had occasion lately to make representations to the Tsungli Yamen of the injustice which is done to this great article of commerce at Hankow. At that place, a heavy local tax was laid on kerosene. The mat-

*In the published valuation lists of the United States Treasury Department, China was omitted during the years 1887–1891, and the reductions of the taels into dollars is based upon the value of the tael as given by our consuls in commercial relations for those years, viz, 1887, $1.30; 1888, $1.15; 18°9, $1.15; 1890, $1.27; 1891, $1.01; 1892, 1893, and 1894 being based on United States Treasury valuations, viz, $1.046, $0.93, and $0.7575.

ter is not yet arranged. The modern system of tanks for the reception of the oil is now working successfully at Shanghai. A great expansion of the trade is looked for. Tank steamers now regularly ply between Batoum and the East.

FOREIGN POPULATION.

The total foreign population of China is stated to be 9,350, of whom 3,989 are British. The American residents in China are next in number, being 1,294. The number of American mercantile firms is 31.

EFFECT OF THE WAR—PROPOSED REFORMS.

There can be little doubt that Japan, in making a treaty with China, will, to a great extent, endeavor to remove many restrictions now existing on foreign trade. She will do this, first, because it will be to her financial interest to extend her own trade, and, secondly, because a treaty embodying reforms will be acceptable to the foreign powers.

If I were advising what reforms should be adopted, I would mention the following:

(1) During war, consuls of a friendly power acting for a belligerent to have all the jurisdiction that its consuls had during peace.

(2) China to be opened to foreign residence as western countries are.

(3) Whether article 2 be adopted or not, missionaries to go where they please, and reside and buy land and be protected.

(4) Foreign goods not to be subject to taxation, except import duty, until they reach the consumer. They are not to be taxed, as is now done, as soon as landed.

(5) No internal revenue or likin tax to be levied on foreign goods which discriminates against them. No such tax to be prohibitory, nor, in any event, to exceed 2 per cent, and no internal-revenue tax to be levied on foreign goods unless a similar tax is levied on native goods of the same character.

(6) Local authorities shall have no power to provide that freight shipped in native bottoms shall pay less export duty than freight shipped in foreign bottoms. The export tax shall be uniform.

(7) Every port in China ordinarily used and frequented by seagoing ships shall be open to all the world.

(8) The coastwise duty of 2½ per cent on goods sent down the Yangtse River and intended to be sent abroad shall not be paid in specie, but a bond shall be taken that if the goods are not exported in a certain time the coastwise duty shall be paid.

(9) Drawbacks are abolished and bonds are substituted for the payment of coastwise duties, in order to relieve the commercial community from a useless expenditure.

(10) Yangtse River regulations to be amended or abolished. No bonds to be required that goods shipped from one point shall be delivered *in toto* at another. The existing regulation is entirely absurd.

(11) Private yachts (noncommercial ships) may ascend the Yangtse River without taking out clearances at Chin-Kiang.

(12) The provincial authorities shall have no power to tax foreign goods for any purpose whatever. Such taxation shall be ordered by the Central Government only.

(13) Machinery may be imported.

(14) Foreigners may engage in manufacturing in China, on the same terms as the natives.

(15) Libelous and scandalous publications affecting foreigners shall be vigorously suppressed.

(16) Stringent measures shall be taken to prevent antiforeign riots, and if such occur, the rioters shall be condignly punished, and, besides, damages shall be paid.

(17) All parts of China shall be open to foreign trade. This shall particularly apply to Peking or any other capital.

(18) The viceroys, governors, and the provincial authorities generally shall be prohibited to treat international matters, except to settle claims for injuries done to foreigners. All other questions affecting foreigners shall be cognizable at the capital and by the Central Government only.

(19) No viceroy or governor shall have the power to make any contract with foreigners for the purchase or supply of any material. All such contracts shall be made or authorized by the Imperial Government.

CHARLES DENBY,
Minister.

PEKING, *April 8, 1895.*

COMMERCIAL PROVISIONS OF THE TREATY BETWEEN CHINA AND JAPAN.

In a dispatch to the Department of State dated Peking, April 25, 1895, Minister Denby gives a synopsis of the treaty of peace between China and Japan, which was signed at Shimonoseki, April 17. The commercial provisions are the following:

ARTICLE 6 (*Commercial*).—New treaty of commerce to be made immediately after this treaty is ratified. Until that treaty is made, Japanese to have favored-nation treatment.

Six months from the date of the present treaty, the following concessions are to take effect:

(1) These ports to be opened to Japanese trade, residence, industries, and manufactories: Sha Shih, in Hupei; Chung King, in Szechuan; Suchow, in Kiang Su; Hang Chow, in Chekiang.

(2) Steam navigation on (*a*) Upper Yangtse River, from Ichung to Chung King; (*b*) Woosung River and the canal from Shanghai to Suchow and Hang Chow.

(3) Japanese may rent or hire warehouses for storage of goods in the interior of China free of taxes or exactions.

(4) Japanese may engage in manufacturing, and may import machinery at all open ports.

In a previous dispatch, dated April 22, Minister Denby states that Vice-Consul Bandinel, of Niuchwang, in the territory still occupied by Japanese

troops, had received communications from the Japanese authorities announcing that a special commissioner for the port had been appointed, and that commerce would be carried on with certain restrictions usual and essential during military occupation. The customs duties, fees, etc., levied upon imports and exports are the same as prevailed under Chinese rule.

TEA TRADE OF CHINA.

I inclose the annual report of Messrs. Evans, Pugh & Co., of Hankow, who furnish the most elaborate report of the tea business done at this port for the last year. The supposition is that there will be a larger demand for tea the coming season than the last, creating a keen competition. The Russian trade was largely remunerative last season.

JACOB T. CHILD,
Consul.

HANKOW, *February 25, 1895.*

EXTRACTS FROM ANNUAL TEA REPORT.

HANKOW, *December 31, 1894.*

The following is our report upon the business done here during the season 1894–95:

The total supplies of Hankow teas have been 715,190 half chests, against 678,760 half chests in 1893, 605,292 half chests in 1892, 651,355 half chests in 1891, and 617,117 half chests in 1890.

Total first crop of Hankow teas was 464,870 half chests, against 507,805 half chests in 1893, 482,441 half chests in 1892, 498,000 half chests in 1891, and 536,000 half chests in 1890.

Total settlements of Hankow teas on this market throughout the season were 628,976 half chests, against 591,044 half chests in 1893, 517,589 half chests in 1892, 562,801 half chests in 1891, and 495,316 half chests in 1890.

Total settlements of Kewkiang teas here during the season amounted to 239,170 half chests, against 242,269 half chests in 1893, 215,719 half chests in 1892, 321,763 half chests in 1891, and 331,234 half chests in 1890.

Shipments hence to London direct were 6,876,185 pounds, against 8,918,962 pounds in 1893, 9,974,843 pounds in 1892, 10,502,559 pounds in 1891, and 11,314,300 pounds in 1890.

Shipments to Shanghai for sale on native account during the season were 89,214 half chests against 103,543 half chests in 1893, 113,532 half chests in 1892, 85,826 half chests in 1891, and 128,151 half chests in 1890.

Shipments to Russia direct via Suez Canal, were 22,233,619 pounds against 20,504,475 pounds in 1893, 15,423,702 pounds in 1892, 24,428,124 pounds in 1891, and 22,742,241 pounds in 1890.

The shipments to Russia via Tien-Tsin and northern ports were 22,000,000 pounds, against 17,000,000 pounds in 1893, 12,000,000 pounds in 1892, 16,000,000 pounds in 1891, and 17,000,000 pounds in 1890.

Russian business in first-crop tea is estimated at 480,000 half chests, against 473,700 half chests in 1893, 361,000 half chests in 1892, 506,000 half chests in 1891, and 530,000

half chests in 1890; and in second and third crop tea at 166,000 half chests, against 101,300 half chests in 1893, 57,000 half chests in 1892, 89,000 half chests in 1891, and 20,000 half chests in 1890, making the total Russian settlements for the whole season 646,000 half chests, against 575,000 half chests in 1893, 418,000 half chests in 1892, 595,000 half chests in 1891, and 550,000 half chests in 1890.

Vegetation was very forward in the spring, and the season was the earliest known. Musters were first shown on this market on the 3d of May, on which day 36 chops, representing 15,949 half chests, were offered, nearly all of them Oonfaas. There was no delay in opening the market, and all the more desirable parcels were promptly taken by Russian buyers, up to 48 taels per picul being paid for Oonfaas and one chop of good Seang-tam selling at 22 taels.

On the 4th of May, the first Ningchow musters arrived, 14 chops being offered. These were the "low country" teas, which proved so fine in 1893, but their quality was not nearly up to the standard of that year, their flavor being dead and dull, the leaf wanting in fragrance while being poor in the cup; still, the first purchases were made at high prices, say 55 to 62 taels per picul.

The Chinese had made preparations for quite a limited business this season, the heavy losses they had sustained in tea during the year 1893 rendering them of necessity unusually cautious. The amount of "sycee"* sent upcountry was very small, in the Ningchow and some other districts, not amounting to more than one-half of what had been invested the previous season. Very little fine tea had been contracted for, and rainy weather injuring much of the gathered leaf, made the quantity still smaller, so much so that in some cases where 1,000 half chests might have been looked for in ordinary seasons, not more than 300 half chests could be produced. Indeed, the chops throughout the crop would have averaged very small (say not over 100 to 200 half chests) had it not been for the very high tael prices paid by foreigners.

Arrivals were very much slower than last year, yet for the quite early days of the season the market was fairly quiet, with prices, on the average, some 15 per cent higher and sterling exchange 25 per cent lower than in 1893.

It was at first thought that high tael prices must inevitably bring down a large supply of tea, but as the season advanced and it became evident that the yield was really going to be very considerably short, there grew an excited feeling among Russian buyers, and seldom has there been such a scramble for suitable teas as followed. The daily settlement list became a long one and prices advanced, owing in great measure to the low sterling exchange, but also because of the scarcity of good suitable tea. There was plenty of medium quality with poor, rough, uneven, and bold leaf, but very little well-made common grade.

Continuous heavy rain about May 13 damaged large quantities of leaf that otherwise would have been prepared for export, and this rendered it fairly certain that the quantity of good tea would be really short. About now the natives asserted with confidence that the first-crop yield would show a deficiency, as against last season, of fully 15 per cent.

By the 26th of May arrivals were rapidly ceasing and the first crop came to a somewhat sudden end early in June, the final deficiency being some 50,000 half chests from the Hankow districts and a like quantity from Kewkiang.

The crop produced very few common teas of anything like good style, and at the end of May there was a very strong demand for such kinds, with nothing to meet it.

It seems probable that we shall see less and less low-priced common tea made each year, for the inland duties and charges are so heavy that at 8 taels it does not pay to pack for export. All this tends more and more to the mixing of inferior leaf with that from better districts. It pays the growers better to let the leaf remain ungathered until it becomes large enough to be used for brick tea, than to sell it at such a price as would even cover its cost at 8 taels in Hankow.

* Uncoined silver.

The season was a very remarkable one for several reasons. It might have been thought that cheap silver would have its effect in benefiting buyers, but all chance of this was neutralized by supplies being so short. With demand larger than in the year before and the production so very much restricted, high tael prices were the natural consequence, and, speaking generally, we may say that more than the 25 per cent advantage which low exchange afforded buyers was given away to the Chinese. This meant very high tael prices, and so, it would be thought, very large profit to the tea men, but a long experience of unremunerative trading had made them unwilling, and in many instances unable, to go in for extensive preparations, the result being that, with the exception of but one or two men, none of them have made money out of the year's business to any extent worth considering. They did not realize what low exchange meant; last year's tael prices would have satisfied them.

Another feature of the season was the extreme rapidity at which purchases were made—at one time equaling the hurry of 1891—and the early date at which the first crop ended, everything being bought by the commencement of June. The market was by that time practically cleared of tea, and never in the history of the trade has such been the case before. There was no first crop left over, nothing left to buy, nothing left for shipment to Shanghai.

The unusually large quantity of Hankow packed teas offered at the end of the first crop was very noticeable. The high prices given to the Chinese led to the mixing and packing of every available half chest of remnants and balances, and these were sold here instead of finding their way to Shanghai, as has usually been the case. Another thing, hitherto unheard of, was the repacking upcountry into half chests of some 3,000 bamboo packages which the Shensi men had ready for shipment overland to Russia; some of these teas were good and sold for high prices.

Business in Russia has, we understand, been generally good this year and results of tea shipments are said to have been satisfactory, the higher cost and finer qualities doing better, however, than the cheaper and commoner kinds.

Although the war between China and Japan has apparently had but little effect on the tea market in England, we learn that the continental markets have considerably strengthened in view of possible eventualities. So far as the season now over is concerned, supplies have in no way been interfered with.

MISSIONARIES AND CHINESE TRADE.

In a dispatch to the Department concerning "Mission Work in China," dated Peking, March 22, 1895, Minister Denby says:

Missionaries are the pioneers of trade and commerce. Civilization, learning, instruction breed new wants which commerce supplies. Look at the electric telegraph now in every province in China but one; look at the steamships which ply along the coast from Hongkong to Niuchwang and on the Yangtse River up to Ichang; look at the cities which have sprung up like Shanghai, Tien-Tsin, Hankow—handsome foreign cities—object lessons to the Chinese; look at the railroad now being built from the Yellow Sea to the Amoor, of which about 200 miles are completed. Will any one say that the fifteen hundred missionaries in China of Protestants and perhaps more of Catholics, have not contributed to these results?

Two hundred and fifty years ago, the pious Catholic fathers taught astronomy, mathematics, and the languages at Peking. The interior of China would have been nearly unknown to the outer world had not the missionaries visited it and described it. Some one may say that commercial agents might have done as much, but they are not allowed to locate in the interior. The missionary, inspired by holy zeal, goes everywhere, and, by degrees, foreign commerce and trade follow. I suppose that whenever an uncivilized, or semicivilized country becomes civilized that its trade and dealings with western nations increase. Humanity

has not devised any better, or even as good an engine, or means for civilizing savage people as proselytism to christianity. The history of the world attests this fact. In the interest, therefore, of civilization, missionaries ought not only to be tolerated, but ought to receive protection, to which they are entitled, from officials and encouragement from other classes of people.

It is too early now to consider what effect the existing war may have on the interests of missions. It is quite probable, however, that the spirit of progress developed by it will make mission work more important and influential than it has ever been.

AMERICAN HARDWARE AND MACHINERY IN SWITZERLAND.

The various consulates of the United States in Switzerland are constantly supplied by American houses engaged in the hardware and machinery trade with trade journals and circulars. No line of manufactures, perhaps, is so constantly urged upon the attention of the American consular representatives in this country as the line of hardware and machinery; and, in response to the requests made, it is the pleasure of the consuls here to distribute the literature sent them and to furnish addresses of foreign dealers. It is very much to be doubted, however, if the results achieved by the distribution of circulars and the furnishing of addresses are at all considerable, for two reasons—(1) the journals and circulars sent are invariably in English, and (2) the Swiss people are not used to ordering from printed descriptions, but deal directly with agents able to speak French or German, or both, and supplied with samples of goods for actul inspection and examination.*

Realizing that American manufactures of hardware and machinery have not been obtaining the best results from the methods employed by them, an effort is hereby made by the United States consular corps in Switzerland (in a report given below, prepared by Consul Kemmler, at Horgen), to furnish the information necessary to improvement in this direction. At the same time, it should not be forgotten that information furnished, but not acted upon, will result in nothing. It is no exaggeration to say that much of the "inefficiency of the consular service" is not inefficiency, but the indifference of American manufacturers to the conditions of successful foreign trade as pointed out and emphasized in CONSULAR REPORTS. That the American, so fruitful in invention and so enterprising in trade within the limits of his own country, should be lethargic when seeking to carry on trade abroad, is, indeed, strange. It is, however, none the less true.

IRVING B. RICHMAN,
Consul-General.

ST. GALL, *April 29, 1895.*

*As at least one means by which American dealers in machinery can establish a direct Swiss connection, I would mention the machinery agency of Paul Grandjean-De Bély. This agency is located at Le Locle, Canton Neuchatel, and its proprietor is a man in every way responsible and reliable. He is anxious to establish American connections, to receive consignments of American goods, and to promote direct trade in American machinery.

REPORT OF CONSUL KEMMLER.

In trying to comply with the request for a report on the direct importation into Switzerland of American machinery and hardware, I met with some difficulties. The statistical reports of Switzerland are not as specific as could be desired; there are no importing or large wholesale houses in this place, and the dealers at Zurich, to whom I had to apply, are somewhat reserved and reluctant in giving specific information, being apprehensive lest a full knowledge of the extent of their transactions in this line of goods might invite competition and injuriously affect a trade which they have built up under great difficulties, with many sacrifices, after years of hard labor and by dint of untiring perseverance.

For all machinery and metal goods imported into this country (tin plate, which comes from Great Britain, excepted) Germany is the main source of supply, although it is possible that some American goods, introduced by agencies in Germany, may have been credited to the latter country. The fact, however, is established that machinery and hardware of American production is not only used in considerable quantities in Switzerland, and, partly at least, brought here by direct importation, though it is difficult to fix the true amount to which this direct trade is carried on.

According to the official statistical reports, there were imported into this country from the United States, during the year 1893, articles falling under the head of hardware and machinery to the following amounts:

Description.	Quantity.	Declared value.
	*Quintals.**	
Agricultural and household machines	399	$8,856
Milling machines	22	637
Wood and metal working machines	16	618
Sewing machines	154	11,889
Embroidering machines	1	52
Weaving machines (looms, etc.)	14	270
Knitting machines	3	220
All other machines	702	20,323
Two bicycles		309
Field implements (plows, harrows, horse hay rakes, etc.)	41	775
Cast-iron ware	281	3,985
Wrought-iron ware	839	26,334
Cutlery	1	135
Copper and brass ware	3	214
Copper, pure or alloyed	1,012	20,396
Firearms	1	482
Wooden ware:		
Rough, unpainted (tool handles, wagon makers' and carpenters' work, without metal attachments)	380	4,034
Same, with metal attachments	9	208
Painted, polished, varnished, etc.	3	159
Picture frames	4	361
Brushes, fine	2	309

*1 quintal=220.4 pounds.

The exportation to the United States during the same year was as follows:

Description.	Quantity.	Declared value.
	*Quintals.**	
Dynamos	9	$312
Embroidering machines	836	14,425
Looms and other weaving machines	233	3,898
Other machines	290	11,539
Milling, knitting, and other labor-saving machines, parts of, and bicycles	18	1,210
Cast-iron goods		2
Forged-iron goods:		
Unfinished	11	2,157
Polished, tinned, and enameled	201	44,225
Scrap and sheet iron, iron wire, and nickel goods	108	15,686
Copper and brass, malleated and in unfinished goods	7	927
Aluminium		49
Tin and articles of tin	18	1,087
Cutlery	2	847
Arms	1	484
Tinware, rough	9	531
Brushes, rough, unvarnished and unpolished	6	1,497

*1 quintal = 220.4 pounds.

Scientific instruments and apparatus were imported from the United States to the amount of 30,635 francs ($5,912); orthopedic and surgical apparatus, 93,935 francs ($18,129); and electrical apparatus, 104,605 francs ($20,189). But these goods do not properly belong to the classes under consideration, and in scientific instruments, the export to the United States exceeded the import.

It is well known that, in machine building, the Swiss people have reached a high degree of perfection, and that Switzerland has supplied the United States with many expert machinists. They may lack, in some measure, the inventive genius and progressive spirit of the American, but they are good imitators and not slow to perceive and avail themselves of any chance for improvement. Machine building is one of the important industries in this part of Switzerland, and a large part of the product is exported to other countries. It is not to be wondered at, then, that a good many articles, which might otherwise be imported with profit, are now manufactured right at home. In spite of this fact, the importation of machinery into this country has almost trebled since 1885, while the exportation, although still exceeding the importation, has not materially increased. According to a late statistical report, the imports of machinery in 1893, inclusive of boilers, but exclusive of bicycles, amounted to 173,199 quintals, valued at 18,316,686 francs ($3,535,120), while 191,033 quintals, valued at 23,716,120 francs ($4,577,211) were exported. Bicycles were imported to the amount of 1,852,918 francs ($357,613), principally from England and Germany.

The bulk of the whole import in the line of machinery (about 71½ per cent) came from Germany, where the construction of machines, in imitation of American patterns, is carried on to a very large extent. One firm, which had its productions on exhibition at the World's Fair in Chicago, is repre-

sented at Zurich by an agency, and advertises under the name of "German-American Machine Works." They have their traveling agents going through the country, and under the claim that their goods (wood and metal working machines of all kinds) are equal in style and quality to the best American productions, while they are enabled to sell them at much lower figures, succeed in doing a large business. The same is the case with agricultural machines and implements, mechanics' tools and other labor-saving apparatus, which, being constructed after American patterns—if they do not actually pass as American goods—are represented as being of equal value, and are sold at prices with which American manufacturers can not compete.

To fight competition of this kind is, of course, uphill work; yet, in spite of these disadvantages, American goods of the kind in question are much used in Switzerland, have been gaining in favor constantly, and are now, to some extent, being directly imported from the United States, while the larger part, it is true, still seems to be procured through agencies in Germany, especially Hamburg and Bremen.

Even in small retail shops, one will frequently find American axes and hatchets, cabinetmakers, carpenters, coopers, and other mechanics' tools, field and garden implements, builders' hardware, house-furnishing goods, etc., and where the superior merits of these articles are once known they find a ready sale at higher prices than the old-fashioned and often clumsy articles manufactured in the country, and even higher than the improved imitations are sold at. One of the main difficulties is to get the very conservative and economical people of this country to take hold of, and try to handle, a new article, to the use of which they are not accustomed, and which they regard with suspicion, especially if the price demanded exceeds that of the article they have been in the habit of using.

Thus, for instance, we still see the wood-choppers here generally use the old-fashioned unwieldy ax, with straight rigid handle, although they might do double the work with one of the long, keen-edged American axes, with slightly curved, pliant handle. Even the tools and implements manufactured in Switzerland are not uniform, but differ in style and shape. The consequence is that the dealers have to keep in stock quite a variety of the same implements (shovels and hoes, for instance) to suit the habits and wants of their different customers. This conservatism is a drawback, which can only be overcome by patience and perseverance. At any rate, we have the satisfaction of knowing, as already stated, that the use of American tools, implements, and machinery has largely increased during the last ten years, and is still extending from year to year, thanks to the energetic efforts of a few dealers and importers of such goods, who not only introduce them in this country but take the trouble, as far as possible, to instruct their customers in the practical use of them.

To one of those dealers,* I am especially indebted for a good part of the information upon which this report is based. This gentleman makes a

*Mr. A. Bannwart, Kauzleistrasse 57, Zurich.

specialty of the sale of American and English machinery and hardware, has devoted himself for twenty years to the study of this line of business, has visited the United States several times, and in this way has succeeded in building up a trade, which not only extends all through Switzerland, but even to Italy and other neighboring countries.

According to his statement, the direct importations from the United States comprise builders' hardware, mechanics' tools, hollow ware, wooden ware, house-furnishing goods, farm and garden implements, saws, saw blades and metal saw frames, nails, scales, meat cutters, etc.; also a few wood and metal working machines which, however, on account of their high price in the face of the competition mentioned, can only be disposed of in very limited numbers. All of these goods he imports direct, and is always on the watch for, and continually experimenting with, new articles, not always with success, but occasionally at a loss to himself.

Consular Agent Williams, in answer to my inquiry about the importation and trade in American hardware at Lucerne, reports that a firm in that city is also importing, probably on a limited scale, direct from New York, and no doubt similar firms can be found in most of the larger cities of Switzerland.

As far as agricultural machines are concerned, another dealer at Zurich, to whom I am also indebted for valuable information, has devoted himself to the introduction of that line of goods; but as he has not met with the success he deserved, he will probably prefer not to have his name mentioned. Switzerland, which is only 16,000 square miles in extent, being a hilly or rather mountainous country, the highlands mostly devoted to grazing, and a large part of the hillsides and level lands to wine and fruit culture, while the arable ground, used for grain raising, is mostly divided into small parcels, has but a limited use for agricultural machines. Even where the plow and cultivator might be used, the tillage is often done by hand, women and children assisting in working the ground as well as in gathering the harvest. Still, on larger estates, and on level ground, where the lands are not too much cut up, plows and harrows, cultivators, field rollers, drills, mowers, reapers, and thrashing machines are generally in use. I have been told that within the last three years not less than five hundred mowers and reapers have been sold in the country, mostly, however, of English and German, and partly of Swiss, production.

The gentleman referred to who represented the Osborne Reaper Company, of Auburn, N. Y., although not importing direct, but through an agency at Hamburg, had made the sale of agricultural machines a specialty, and, having in connection with his commodious sale and sample rooms a large area of ground suited to the display and trial of goods, was exceptionally well fixed for this particular branch of business. Besides, he let no opportunity pass to place his goods before the public, and never failed to bring them into competition with other makes at the exhibitions and field trials, which are arranged from time to time on suitable occasions.

In a report on one of these trials, the Osborne reaper, the only machine of American production that seems to have competed, is very favorably spoken of and highly recommended, "although it is an imported machine," as the reporter ingenuously adds. The same kind of machine, at a competitive trial in June, 1891, had been awarded the first premium by the Aricultural Society of Germany.

In August, 1894, an exhibition and trial of plows and other agricultural implements took place at Burgdorf in the Canton of Berne. From the scant reports of it, it seems that the competition was confined to plows and small implements, and that, in the trial of plows, the Swiss manufactures came off victorious over all competitors. Not a foreign-made plow received even one of the smallest prizes. This is not surprising, however, in view of the fact that the Swiss artisans, working after strange patterns, understand how to adapt their productions to the special wants of their country, as a glance over the Cantonal Industrial Exposition at Zurich, which took place last summer, clearly demonstrated. Besides, the juries in such trials are naturally inclined to favor the home production whenever it can be done without too glaring injustice.

The official report on the result of this trial has never come to my hand, but I saw from a newspaper account that the dealer at Zurich above referred to received a diploma as exhibitor. Besides mowers and reapers, this gentleman kept on stock in his spacious warerooms a variety of agricultural machines and implements, and made a fine display of his goods at the Agricultural Exposition at Zurich in the fall of last year, but, I am sorry to hear, that he has since met with financial reverses, compelling him to make an assignment.

Probably, there are other firms in Switzerland engaged in the same branch of business, but I have not heard of them. I know, however, that there is one firm at Zurich making a specialty of American firearms, and that American manufacturers of sewing machines and typewriters have their agencies here.

Whether any stoves of American manufacture are being sold in Switzerland, I have not been able to ascertain. Baseburners built after American patterns are largely in use, but as far as I have seen them they are all manufactured in Switzerland and Germany, although they are generally called "American stoves," as is the case with a great many tools and machines used in the different trades, the forms and principals of which have been copied from American models. As a general thing, only such labor-saving machines of American production as are protected by patent in both countries find their way into the sales rooms and shops of Switzerland, and as the patent laws of this country are not very favorable to foreign inventors, and the benefit to be expected in most cases is not in proportion with the trouble and expense, but few Americans seem to avail themselves of them.

A look through the Cantonal Industrial Exposition at Zurich, which was held from June 15 until October 15 of last year, would have given American

machinists a better idea of the extent to which machine building and the manufacture of improved tools and instruments is carried on, and to what perfection it has been brought in Switzerland, than anything that can be said or written about it.

With justifiable pride, though the claim may be exaggerated, a prominent paper of Zurich, in speaking of the exhibits of one of the principal tool-manufacturing firms of that city, says:

> The tools exhibited by this firm fully equal the justly celebrated American products, and the great demand and the widespread use of them is the best proof of their excellent quality.

Under these circumstances, only an expert, or one thoroughly acquainted with the trade, would be able to determine, after close examination and comparison of goods and prices, what class of article or special machines could profitably be imported. The federal exposition, which will be held at Geneva during the summer and fall of 1896, will give those interested in the matter another opportunity to look over the field and see in what particular class of goods they may be able to compete.

I am sorry that I have not been able to obtain price lists sufficient to warrant me in giving comparative figures; from what I have secured, however, I have no doubt that our American manufacturers in many lines are fully able to compete, even in price, with European manufacturers, especially if they send direct, thereby saving the commission of intermediaries. From what has been said, we know that they will find no difficulty in placing such of their goods as are in demand, or of any use here, on the market through firms already existing and experienced in the business, if they do not prefer to establish agencies of their own, which, however, could only succeed under the management of some one thoroughly acquainted not only with the language, but also with the business methods and general conditions of trade in this country. Joint agencies, with depots in the principal commercial cities, would probably best answer the purpose, as has been suggested time and again by American consuls in Switzerland.

If a manufacturer or exporter, however, prefers to introduce his goods through established firms, which is the most direct and least hazardous course, he can do so by sending an experienced representative, who ought to be perfectly at home in the trade and able to speak the French and German languages, and by judicious advertising in the leading papers of the country. The most clever and successful traveling man, if he lacks the knowledge of the languages or dialects spoken here, and is not conversant with the business methods and the wants of the people, will generally fail to accomplish anything. Besides, even if an agent has established business connections, he will have to repeat his visits at regular intervals if he wants to keep his trade. American manufacturers and exporters would do well to follow the example of the business men in Germany and Switzerland, who have their young men specially trained for service in foreign countries. Circulars, catalogues, etc., are but poor substitutes for a live, intelligent man.

The American consuls receive many circulars for distribution, and are generally willing to place them into proper hands, but they rarely lead to any substantial results, partly because they are generally printed in the English language, and partly because they fail to give the information the business men here desire. If they are to be of any benefit at all, they must be printed in either German or French, contain a clear description of the goods offered, and give the lowest price of the goods delivered in Switzerland or at one of the nearest seaports on three months' time, or at a reasonable discount for cash. The attempt of American dealers to force their home methods and terms upon business men in foreign countries is always likely to result in failure.

Another, and perhaps the most promising way for American manufacturers to start a trade in Switzerland, is to send such of their goods as are likely to find a sale here, or at least samples of them, to responsible firms on consignment. That is the method by which German and Swiss manufacturers have established their large trade in all parts of the world, but American business men do not generally seem inclined to adopt this course. At least, an attempt lately made in this direction by a responsible Swiss firm,* which, with the object of extending its sphere of operations, and being favorably situated for handling and displaying agricultural machines and implements, tried to get a stock of such goods from American firms on consignment, did not meet with any success. Nothing short of a ready sale, with prices at the factory, or at best at an American seaport, would satisfy the firms with which the party referred to corresponded. The probability is, that English or German firms will gladly accept an offer which American firms have rejected. Manufacturers who wish to introduce their productions into new fields ought to be willing to assume some part of the financial risk; at least, that is the way business men in this country generally look at it. Though wide-awake, they are very conservative and do not like to undertake anything without seeing their way out. Before they order, they want to be able to calculate as nearly as possible what it is going to cost them to bring a given article into their sales rooms.

My attention has been called to another matter worth mentioning. In sending goods into Switzerland, the fact that the duties are imposed by weight, and the packing is taxed with the goods, should not be lost sight of. The packing, therefore, ought to be as light as the safety of the goods will allow, every pound of packing increasing, by the amount of duty paid on it, the cost of the article it contains.

A point specially to be kept in view by American manufacturers is that goods intended for foreign consumption should be made of the best quality, according to the tastes and requirements of the customer, as the Swiss, German, and English manufacturers are doing, who have long since learned, and are always ready, to adapt their products to the wants of their patrons in regard to style, quality, design, strength, weight, measure, and everything

* The Kirschwasser and Handelsgesellschaft, Zug.

else, making the habits and usages of the different countries with which they have dealings a special study, and keeping themselves posted on all changes in fashion, styles, improvements, new inventions, etc.

Great care should be taken in respect to labeling, packing, and shipment. Where the foreign purchaser bears the expense of transportation, the most advantageous route ought to be selected, and the patron protected against overcharges, which often consume a large part of his profit.

The duties imposed on machinery and hardware by the tariff laws of this country are as follows per quintal (220.4 pounds):

	Francs.*
Agricultural and other machines (reapers, mowers, thrashing machines, grain drills, steam plows, meat choppers, feed cutters, fruit presses, wringers, churns, sewing, knitting, weaving, and embroidering machines, wood and metal-working machines, and other labor-saving machinery and apparatus, except locomotives; dynamos, scales, finished parts of machinery, etc.	4.00
Plows, harrows, cultivators, clod crushers, field rollers, horse hay rakes, etc.	6.00
Scythes and sickles	7.00
Other field and garden implements, axes, hatchets, etc., made of wrought iron or steel	10.00
Same, polished, tinned, varnished, etc.	12.00
Wooden hay forks, rakes, shovels, etc.	6.00
Same, with iron prongs, teeth, etc.; washboards, bird cages, etc.	12.00
Hand planers, not polished; coffee and spice mills, with wooden cases, not painted or varnished; tool handles, etc.	10.00
Same, painted, polished, varnished, carved, etc.	30.00
Locomotives	10.00
Rough, heavy iron castings	.60
Cast-iron goods, hollow ware, stoves, etc., rough	2.50
Same, with ornamentation or finer finish	5.00
Wrought-iron goods, rough, heavy (plowshares, wagon axles, anvils, etc.)	3.00
Goods made of wrought iron, malleable iron, steel, sheet iron, or wire, not finely finished	10.00
Same, partly polished, tinned, varnished, galvanized (door locks, nails, bolts, screws, farm and garden implements, axes, etc.)	12.00
Same, finely finished, polished, painted, varnished, enameled, or bronzed (exclusive of agricultural implements)	22.00
Same, nickeled	25.00
Cutlers' goods	40.00
Arms of all kinds and finished parts of same	50.00
Lead, copper, brass, nickel, and bronze goods (according to finish and amount of work involved in production)	8.00 to 60.00
Farm and freight wagons, trucks and sleds	6.00
Carriages, sleighs, etc.	20.00

As will be seen from these figures, the Swiss tariff is not prohibitive, but may be termed a tariff for revenue, with incidental protection. While it admits raw material free, or at a nominal duty, it increases the rate in proportion with the finish and amount of work required for the completion of the article, and thus, without creating or fostering monopolies, stimulates the industries of the country and gives them a chance to compete successfully with other nations in the markets of the world.

*1 franc=19.3 cents.

Summing up, I can only refer back to what I have already stated, and repeat what Frank H. Mason, esq., then United States consul at Basle, and now consul-general at Frankfort, expressed years ago when he wrote:

As a principle it may be stated that the introduction of American manufactured products into Switzerland can be accomplished only by the same means that are employed for a like purpose at home. The goods must be advertised, intelligently exhibited, submitted to purchasers for inspection and trial; in a word, the business, whatever it is, must be pushed, as Americans are accustomed to push their trade at home, and in whatever foreign countries they have obtained a footing. * * * When the same energy, persistence, and foresight which are now displayed in the manufacture of American goods are turned to the work of selling them, there will come the crisis of competition which Europe will have cause to dread. When American merchants establish permanent agencies in the new countries where Germany, France, and England are now competing for commercial advantages; when young men are sent to these agencies to learn the language and study the habits and wants of the people; when American goods are made, packed, marked, and in every way adapted to the peculiar notions and requirements of the people for whose use they are destined; and when the foreign service of the United States is placed on the secure and sustained footing that has been found most advantageous by other nations; then it will be found that the people who have created a great nation within a century, are merchants as well as manufacturers and farmers; that they know how to sell as well as create. There will then be heard far less than now of strikes and crises in American industry, and the United States will have taken the high and influential position as a commercial nation, to which it is entitled by its unequaled resources, the energy, enterprise, and progressive spirit of its people.

This is as true to-day as it was ten years ago, when it was written; but the American manufacturers and exporters, having meanwhile gained a pretty strong foothold in Switzerland, have to-day, as explained above, much more favorable ground to work upon than they had at that time. If they only improve the opportunity and employ the means suggested, they ought to be able to extend their trade with this country to a considerable extent, though the field is not a very large one, the wants of it rather limited, and the competition keen and lively.

With their intelligent, skillful labor, improved tools and machinery, inventive genius, progressive spirit, cheap raw material, and other advantages, American manufacturers ought to, and no doubt soon will, be able to compete in most branches of industry with almost any country in Europe, even against the cheaper, but somewhat slower and less effective labor of those countries.

WM. F. KEMMLER,

HORGEN, *April 25, 1895.* *Consul.*

PROPOSED BELGIAN DUTY ON FLOUR.

The following information has been obtained from the Association Générale des Meuniers Belges (Association of Belgian Millers) relative to the proposed duty on foreign flour coming into Belgium, and the cause of the movement.*

*See CONSULAR REPORTS No. 176 (May, 1895), p. 147, "Proposed Tariff Law for Belgium."

Owing to the persistence of the Belgian millers in endeavoring to secure legislation against the introduction of French flour under bounty into Belgium, it is generally supposed that the millers are protectionists. This is inexact, as they are, in general, fervent advocates of free trade and opposed to any duty whatever on foreign wheat. The proposed measure, as far as I can learn, is directed solely against France, which, under her tariff of 1894, permits the temporary admission of wheat in bond to be milled for reexportation, and gives a bounty to the millers on every 60 kilograms (132 pounds) of flour exported, besides a drawback on the wheat milled for exportation. Since the date of the new tariff in France, first quality flour coming into France from Belgium pays a duty of 10 francs ($1.93) instead of 6 francs ($1.16), and bread is now taxed 5 francs (96½ cents) instead of 1.20 francs (23 cents) per 100 kilograms as formerly. The Belgian millers regard this as prohibitive, and, consequently, are demanding retaliatory measures from their Government, with a view not to exclude foreign wheat, but to protect all classes of laborers and artisans depending directly or indirectly upon this article of commerce as a source of livelihood. Among the industries cited as directly interested are machine shops, mills for the manufacture of materials for flour mills, looms for weaving flour sacks, manufacturers of beltings, railroads, canals, and wagon transportation, besides the incalculable loss to the port of Antwerp, where no less than 500,000 tons of wheat are annually discharged to be shipped to the various mills throughout the Kingdom.

I am informed that the Association of Belgian Millers is opposed to any legislation that would interfere with the importation of wheat from the United States. It is the opinion here, however, that the Belgian House of Representatives will pass a bill in May or June next imposing a duty of 1.50 francs (29 cents) per 100 kilograms (220 pounds) on flour coming into Belgium from all countries.

I inclose herewith a translation of a memorial offered in the Belgian House of Representatives March 8, 1895, to impose an import duty on flour.

GEO. W. ROOSEVELT,

BRUSSELS, *April 16, 1895.* *Consul.*

[Translation.]

The regulation in France permitting temporary admission of grain destined to be milled for exportation has, for a long time, provoked serious complaint from the Belgian millers on account of the export bounty received by the French millers. The milling industry is not alone affected by the unfavorable situation so long complained of, but is joined in its protest by the farmers. It is quite clear that if Belgian mills succumb in their unequal struggle against a competition which, not satisfied with a high prohibitive tariff, seeks to crush them with the help of unjust bounties, such circumstances will not aid in opening markets for Belgian wheat producers.

By an analogous phenomenon just now observed in northern Holland, we shall see our agriculturists forced, by the closing of all mills in Belgium, to carry their wheat to foreign mills to be ground. Besides, it is well known that cattle, the valued resource of farmers, and at present almost the only source of profit left them, find, in the inferior products of the mills,

such as bran, wheat waste, etc., an abundant and necessary food. How much worse would be the situation of the farmers if they should be compelled to buy from foreign countries, at an increased price on account of transportation, the 250,000,000 kilograms of mill waste required, which, so to speak, they now find at their doors.

It should not be understood that imposing a duty of 1.50 francs (29 cents) on flour would have the effect of increasing the price of bread. Such a result is to be feared only in case of obstacles being put in the way of free entry of raw material, or if the mills are insufficient or inadequate to produce the amount necessary for home consumption.

On the other hand, should wheat continue, as in the past, to enter free of duty, and if there is a well-established industry capable of satisfying the most exacting demands, as is the present milling industry, which, during the past ten years, has greatly improved, enlarged, and perfected machinery and mills under such conditions, home competition which, at present, is unrestrained between the millers, would alone be amply sufficient to maintain prices at rates fixed by the free operation of economical laws. The levying of the proposed tax would result in making Belgian millers produce in the future, and at the same price as their French competitors, the large number of bags of flour now imported from foreign countries, without profit to any one in Belgium. It would thus be a work of justice and compensation to an important industry without causing the slightest inconvenience to the mass of consumers.

The following is how one of the principal wheat brokers of Antwerp expressed himself in a letter published March 3, 1895:

"Thanks to improvements made in machinery by a large outlay of capital, as well as to important changes made at the same time in size and capacity of mills, our millers are quite in condition to more than satisfy the most exacting demands. The only result of the compensating duty would be to induce our millers to produce and sell at the same price the many hundred thousand bags of flour we now receive from France, and low prices under these conditions would be assured, as our millers could supply this supplementary production without increasing their present general expenses, and would thus find, as a result of increased production, the means to reduce the selling price of their own product."

It is only since January 1, 1893, that flour has been mentioned separately in our statistics. We imported during the years 1893 and 1894 an average quantity of about 66,000,000 kilograms (145,200,000 pounds). It is estimated that the proposed duty will lower the importation to about two-thirds. Thus, the quantity subjected to duty would be about 22,000,000 kilograms (48,400,000 pounds), giving a revenue of 330,000 francs ($63,690).

The duty on flour is 1.50 francs ($0.29) per 100 kilograms (220.46 pounds).

NEW TARIFF OF BARBADOS.

I have the honor to forward, for the information of the Department, a copy of an act to "fix a tariff on goods imported into this colony" as passed by the house of assembly and legislative council, and assented to by the governor on April 30.

This tariff is intended to replace the duties on certain articles which were reduced by the local tariff of 1891 to meet the requirements of section 3 of the United States customs administration act of June 10, 1890. To meet the deficiency in the revenue caused by the reduction of the duties on these articles, the tariff of 1891 provided for an increase of duties on all liquors imported into this colony, and it is noticeable that in this new bill no reduction is made under this head.

GEO. T. TATE,

BARBADOS, *May 3, 1895.* *Consul.*

TARIFF SCHEDULE.*

Duties of customs inwards.

	£.	s.	d.
Arrowroot, touslesmois and all other starches.....per 100 pounds...	0	1	0
Asses.....each...	0	5	0
Bran, pollard, and oats.....per 100 pounds...	0	0	7½
Bread, pilot and navy, and crackers (old duty, 3d.).....do.....	0	0	6
Bricks.....per 1,000...	0	3	0
Butter.....per 100 pounds...	0	7	6
Oleomargarine, margarine, and their compounds.....do.....	0	3	9
Candles, other than tallow.....do.....	0	8	4
Candles, tallow.....do.....	0	4	2
Cement.....per barrel...	0	1	3
Cheese (old duty, 3s. 9d.).....per 100 pounds...	0	7	6
Coal and the mixed preparations thereof, and coke.....per ton...	0	2	6
Cocoa.....per 100 pounds...	0	2	1
Coffee.....do.....	0	2	6
Cordage (except twines).....do.....	0	1	6
Corn and grain unground (old duty, 4½d.).....do.....	0	0	6
Firearms.....each...	0	10	0
Fish:			
Dried, salted or smoked (old duty, 2½d.).....per 112 pounds...	0	1	0½
Pickled.....per barrel...	0	0	5
Flour, wheat or rye (old duty, 3s. 1½d.).....per barrel of 196 pounds...	0	4	2
Indian meal or other kinds.....do...	0	1	3
Horses:			
Under 13½ hands high.....each...	0	10	0
All others.....do.....	2	0	0
Lard (old duty, 2s. 1d.).....per 100 pounds...	0	4	2
Liquors:			
Malt liquor, cider, and perry in wood.....per cask of 64 gallons...	0	18	9
Malt liquor, cider, and perry in bottles (reputed quarts).....per dozen...	0	1	3
Spirits and cordials (except rum and gin and perfumed spirits to be used as perfumery only).....per gallon...	0	10	0
Gin, for every gallon below or equal to proof, by Sykes's hydrometer..... (For every higher degree of proof, in proportion.)	0	5	0
Rum, for every gallon below or equal to proof, by Sykes's hydrometer... (For every degree of proof, in proportion.)	0	5	0
Wine—			
Sparkling.....per gallon...	0	5	0
All other kinds.....do.....	0	2	0
Matches, lucifer, and other kinds, per gross of 12 dozen boxes, each box to contain not exceeding 100 sticks..... (Boxes containing any greater or less quantity, to be charged in proportion.)	0	1	0
Meat, salted or cured (old duty, 3s. 9d.).....per 100 pounds...	0	5	0
Metals, new:			
Composition nails, bolts, bars, rods, spikes, and rivets...per 100 pounds...	0	4	2
Copper, in sheets, rods, bars, bolts, spikes, nails, and rivets.....do.....	0	4	2
Iron hoops, bars, and rods.....do.....	0	0	4
Iron nails, spikes, rivets, and clinches.....do.....	0	1	0

*Where the tariff was changed, the old rates are given in ( ). Otherwise, the tariff of 1891, referred to by Consul Tate, is left intact. For all practical purposes, the shilling may be estimated at 24⅓ cents, and the penny at 2 cents.

	£	s.	d.
Metals, new—Continued.			
Lead, sheet, and pipe.....per 100 pounds...	0	1	0
Yellow metal in sheets.....do.....	0	4	2
Old (copper, brass, and pewter).....do.....	0	2	0
Molasses (old duty, free).....per gallon...	0	0	1
Mules of the value of £12 10s. and upwards.....	1	10	0
Mules under the value of £12 10s.....	1	0	0
Oil, kerosene (old duty, 1d.).....per gallon...	0	0	2½
Oil meal and oil cake.....per 100 pounds...	0	0	5
Rice (old duty, 6d.).....do.....	0	0	9
Soap.....do.....	0	1	3
Sugar (old duty, free).....do.....	0	10	0
Tallow.....do.....	0	2	0
Tea.....per pound...	0	0	3
Tobacco:			
Cigars, cheroots, and cigarettes of all kinds.....per pound...	0	5	0
Snuff.....do.....	0	1	6
Other manufactured.....do.....	0	1	6
If in outer packages of less than 80 pounds net weight each...do.....	0	2	0
Leaf.....do.....	0	1	0
If in outer packages of less than 50 pounds net weight each...do.....	0	1	6
Wood:			
Hemlock, birch, beech, white pine, pitch pine, and spruce, per 1,000 feet superficial measurement of one inch thickness (old duty, 3s.).....	0	5	0
Hoops, whether coiled or straight.....per 1,200 pieces.....	0	6	0
All other kinds except in naves, felloes, spokes, and unsquared posts per 100 cubic feet.....	0	8	4
Shingles of all descriptions.....per 1,000...	0	1	6
Staves, white and red oak, whether loose or made up in bundles or shooks, per 1,200 (old duty, 3s.).....	0	6	0
Oxbows.....per dozen ..	0	0	6
Truss hoops.....per set of nine...	0	1	3

All other articles not in this table particularly enumerated or exempted to pay 8 per cent ad valorem.

Exemptions from duty.

All articles for the use of the governor of the island.

All articles and things whatsoever imported by the local government for the police or for public institutions.

All articles specially imported for the use or decoration or building or repairing of any place of worship, and not imported for sale, on the certificate to that effect of the officiating minister.

All articles and things of every description imported by any naval officer on full pay in Her Majesty's service for his use and accommodation, on the certificate to that effect of the officer so importing.

The governor, purchasing any articles whatsoever, shall be entitled to have the duty refunded to him out of the public treasury on the warrant of the governor in executive committee, on the certificate that he is entitled to the refund.

Where horses are purchased by the governor, direct from the importer, within six months after the date of import, the duty shall be allowed him on the warrant of the governor in executive committee, on the certificate that he is entitled to the refund.

All articles and things of every description, imported as general, military, or naval stores for the use of Her Majesty's military and naval forces, and all building materials and sup-

plies, imported or taken out of bond under the authority of Her Majesty's treasury for military and naval services, under certificates from the head of the department concerned. Chargers imported by, and bona fide the property of, field officers, or departmental officers of relative rank, or of staff officers or adjutants of regiments, and necessary for the proper discharge of their military duties, under a certificate from the assistant adjutant-general.

Articles of personal and horse equipment necessary for the performance of military duty, under a certificate from the head of the department concerned. Horses imported for the commissariat department or purchased for the commissariat department within six months of their being imported, under a certificate from the head of the commissariat department.

All bona fide official supplies sent for use of any consular officer by his government, if the governor in executive committee, on proof that such government accords to British consular officers within its territory similar treatment, thinks fit, as a matter of courtesy, to exempt such supplies from customs duties, provided always that such consular officer before receiving such supplies, free of duty, shall make a declaration before the comptroller that such supplies are sent by his government for his use as consular officer; and provided also that any such exemption shall not exempt the consuls from customs duties generally.

Asphalt.

Belting for machinery.

Blubber and heads and offals of fish.

Bones and horns.

Books (bound and unbound), pamphlets, newspapers, and printed matter in all languages, forms, and papers (whether printed or manuscript), maps, charts, school globes, engravings, music, pictures, statues, and other works of art; provided always that the importation of books shall be subject to the provisions of copyright laws.

Bottles, of glass or stoneware.

Bullion, coin, and diamonds.

Calves, sucking.

Cassaripe.

Cattle.

Cocoanuts.

Cotton wool.

Eggs.

Foals.

Fresh fish and turtle.

Fresh fruit and vegetables.

Fresh meats.

Fuel (wood and charcoal).

Gravel, sand, soil, earth, and peat.

Green ginger.

Gunpowder, gun cotton, dynamite, nitroglycerine, and all other explosive matter whatsoever.

Hay and straw.

Hoe sticks.

Horses brought into the island by equestrian companies, provided the same are taken away by them on leaving, and race horses on every occasion after the first importation thereof, provided no drawback had been claimed thereon on exportation.

Hulls, boats, masts, spars, apparel, tackle, and furniture of vessels condemned by survey, and on which tonnage duty shall have been paid.

Ice.

Leeches.

Lemon and lime juice.

Lime (building and temper).

Limestone.

Live and dead stock, not enumerated under "duties of customs inwards."

Logwood.

Machinery and apparatus imported for the purpose of manufacturing bricks, tiles, cement, pipes, and other articles of the like nature, and for renewing the same as it shall from time to time become worn and useless.

Machinery to be used for the reaping or manufacture of sugar; machinery and apparatus to be used in the construction and establishment of ice factories, and for the manufacture of ice.

Manure, including fertilizers of all kinds, natural and artificial.

Metals (old iron and old lead).

Oars and sweeps.

Packages in which goods are imported, except new trunks, vats, hogsheads, and puncheons.

Passengers' baggage containing apparel and articles of personal use, and professional apparatus.

Patterns and samples of no intrinsic value.

Personal effects of individuals belonging to this island dying abroad.

Pozzolana.

Rags.

Raw hides and skins.

Salt.

Sawdust.

Soda water, mineral and aërated water.

Specimens illustrative of natural history, seeds, bulbs, and roots, and cuttings of plants or shrubs of all kinds.

Spars.

Tablets and tombstones and all the appurtenances thereto, imported specially for immediate erection and not for sale, on certificate of the person for whom imported.

Tar, pitch, and resin.

Turtle and tortoise shell, unmanufactured.

FOREIGN EXPOSITIONS.

BERLIN EXPOSITION OF 1896.

Referring to my report dated January 2, 1895, in reference to the Berlin Exposition for 1896,* I am now able to state positively the attitude which the promoters of that exhibition have taken in regard to foreigners. There is now no hope for admission of foreigners, not even if they open an agency in Berlin and make goods within the city limits.

I requested an American firm doing business here in that way—that is to say, occupying premises, paying taxes, making and selling goods in the city of Berlin—to make such a claim and insist until a definite answer was obtained. It has just been rejected, on the plea that the main branch of the business is located elsewhere. To prevent any further attempts to enter the show, to make certainty doubly certain, the exposition promoters have announced that the time for making entries is closed.

* Printed in CONSULAR REPORTS No. 174 (March, 1895), p. 402.

In this connection, it may be well for American merchants, firms, or corporations, who think of Berlin as a possible opening for a branch office, to know of some of the difficulties which are put in their way. Foreign corporations are not allowed to do business in Germany without obtaining a concession or license from the Government. A condition of this concession is that the corporation shall be registered in the Handels-Register, an office that keeps an eye on all native corporations which do a business of, say, $2,500 and upwards. After registration in the Handels-Register, it is said that a firm or corporation can get better credit; but this is not so important to foreign as to native manufacturers. Cases have occurred lately where the German judge, whose duty it is to register corporations, has refused to register an American corporation because the laws of the several States of the Union are not like the laws of Prussia. Corporations must also publish in the official paper, which appears on the day following the date of its publication, all such statements regarding their business as the Government, in its wisdom, may exact. A concession to a foreign corporation can be revoked at any moment without notice and without statement of cause. If the business in question is in any way dangerous to the health or life of employees, the corporation must join a *Genossenschaft*, a species of mutual life and accident assurance club, the dues being calculated according to the number of work people employed.

A few taxes greet the business man who ventures to settle in Berlin to establish a branch of a foreign business. There is the (1) *Einkommen Steuer*, or state revenue tax, 6 per cent of calculated profits; (2) *Gemeinde Steuer*, or city revenue tax, practically the same in amount as the state tax; (3) *Gewerbe Steuer*, or industrial tax. The *Mieths Steuer*, or tax on amount of rent paid, has lately fallen away, but a new tax, the *Vermögen Steuer*, or income tax proper, has been laid afresh, and this is demanded from foreigners who remain here any length of time, as well as from natives.

I do not wish to discourage our merchants and manufacturers from attempting this market, which, in some respects, offers a tempting field for those who understand the people and the country. But it is imperative that they should consider the difficulties in the way before spending money on agents and offices.

CHARLES DE KAY,
Consul-General.

BERLIN, *April 1, 1895.*

AMERICAN EXHIBITS IN BERLIN.

Referring to my previous reports, dated January 2 and April 1, 1895, regarding the Berlin Industrial Exhibition of 1896, I have the honor to submit the following:

Although American exhibitors, even when manufacturing in Berlin itself, have now been ruled out of the Berlin Industrial Exhibition for 1896, it does not follow that they can not take advantage of the influx of people

from all parts of Germany into Berlin, which is expected to occur on that occasion, by showing their wares in the city. To this end, there is need of persons here in Berlin who understand the methods of doing business in Germany, as well as America. Through such persons, and in a quiet, businesslike way, a permanent exhibition of American manufactures and agricultural products might be profitably established at Berlin, without any of those costly efforts at advertisement which, for the most part, act in a harmful manner by deterring the large buyers from visiting the exhibition. This permanent show should be self-supporting, an exhibitor hiring only so much floor space as he may need. It should be placed in the most frequented business quarter of the city, so that persons visiting the Industrial Exhibition in Treptow Park next year could thus have an opportunity to compare Berlin work with similar American products.

I am the more encouraged to believe that this is the right way to bring American objects of agriculture, manufacture, and the industrial arts to the knowledge of Germans, because I know of one case in which this is being done, though on a small scale. An agent of an export company in one of our seaboard cities is selling iron tools, implements, small labor-saving machines, American inventions, and finer kinds of hardware generally, and is placing orders in constantly increasing amounts. He has extended his business to canned goods—lobsters, oysters, canned meats; also, to dried fruits, such as evaporated and sun-dried apples, California honey, and many other articles. I asked him to give me a report from such correspondents as he already has secured in various German towns, and as he has here the reputation of a trustworthy man, I translate the summary of reports as follows:

Hanover.—American articles in boxes (canned), lobsters, canned meats, etc., are our specialties, and we have already imported a great deal. We are also in position to sell a great amount if you can make us favorable offers, since we have excellent connections.

Crefeld.—As to dried apples, fruits, etc., I have made inquiries and learned therefrom that American apples are used almost exclusively. Dusseldorf and Cologne, as well as Aix la Chapelle and Münster, buy great quantities.

Dresden.—I was about to write you whether you were not going to undertake canned goods also. Lobsters and California honey were introduced here long ago. There is much call for Valparaiso honey.

Königsberg.—Lobsters were already closed out for this year as far back as July and August. Offers of California honey would be very desirable. To-day I have a possible purchaser of 100 cwts., and I would particularly like to see your offers, if possible, with samples.

Breslau.—Honey, Havana and Mexican; apples, dried, in kegs, and evaporated, in boxes, find excellent sales in this place.

Cologne.—American slit apples are pretty largely used here.

Leipsic.—I could only take from America cotton-seed oil, corned beef (in barrels of about 2 cwts.), evaporated and sun-dried apples, etc., and beg to have your offers in the matter promptly. Samples of canned goods must be here in July, otherwise it will be too late. Perhaps, a big business can be done in honey, because the long winter has done much damage among the bees.

This is, of course, a very partial list, since it represents the efforts of only one man. It may be noted that the Imperial Diet has already struck honey

a blow by raising the duty thereon from 20 marks to 53 marks per 100 kilograms ($4.76 to $12.61 per 220.46 pounds) and cotton-seed oil from 10 marks to 40 marks ($2.38 to $9.52) for the same weight.

The yearly production in Europe of wax alone is estimated at 15,000 tons (33,069 pounds), valued at 27,000,000 marks ($6,421,000), or about 1.80 marks per kilogram (42.8 cents per 2.2046 pounds). The yearly production of honey is about 80,000 tons, valued at 44,000,000 marks ($10,472,000). Recently published statistics here place the output of honey in the United States at 30,000 tons; in Germany, 20,000 tons; Spain, 19,000 tons; Austria, 18,000 tons; France, 10,000 tons; Holland, 2,500 tons; Belgium, 2,000 tons; Greece, 1,400 tons; Russia and Denmark, 900 tons each.

The increase in duty on cotton-seed oil and honey is calculated to please the landowners and farming class, and is part of a general endeavor to keep out American food stuffs. Cotton-seed oil is used to make margarin, or artificial butter, an article which many dairies in Germany are fabricating on a large scale, while honey is largely used in the finer and dearer sorts of various popular cakes like the world-famed Nuremberg *Lebkuchen*, enormous quantities of which are consumed in all parts of Germany.

These facts are merely introduced here to show that, with proper management, there is a market for American food stuffs, as well as American hardware, in Germany and to reinforce the statement that Berlin has become a chief center for the distribution of such goods. Hitherto, Hamburg and Bremen have done the business through German and British houses. It would be in many ways quicker and more profitable to deal directly with Berlin, now that this city has become so large. Particularly next year, when the Industrial Exhibition is going, does it seem the proper moment to make a quiet, determined effort to get American articles before German buyers here.

I may add that no uniformed bands, free lunches, waitresses, and other adjuncts of county fairs are in place here. Persons who counsel such things may be set down as ignorant of Germans and of Germany. A permanent, not occasional, exhibition is needed, managed by business men. Should any responsible firms wish to try Berlin as a market for their goods, I shall be glad to receive their letters and turn them over to the gentleman mentioned above whose reports I have given—a man who seems to have the confidence of the business community and is now placing orders all over Germany. But I can not undertake to answer such letters myself, since this office is not prepared for so extensive a correspondence as this is sure to become.

CHARLES DE KAY,
Consul-General.

BERLIN, *May 11, 1895.*

EXHIBITION AT LÜBECK.

The ancient Hanse town of Lübeck is to hold an exhibition during the second week of September next, which is intended to show more especially the progress of commerce and industry in Prussia. At the same time, there will be an exhibit of dairy products on the part of the German Dairy Society. This exhibition will be the third of its kind, and will be open to Germans only. Its interest to Americans, however, lies in the fact that foreign machinery, tools, and other objects useful to the dairy farm will be accepted. Lübeck has a United States consular agent in Mr. Jacob Meyer, jr., under the Hamburg consulate, but the committeemen having the dairy interests in charge are C. Boysen, of Hamburg; C. Peterson, of Eutin; and Dr. Weigmann, of Kiel, to whom exhibitors of novelties and sample articles useful in the dairy business may apply directly by mail.

CHARLES DE KAY,

BERLIN, *April 10, 1895.* *Consul-General.*

RUSSIAN CATTLE AND MEAT PRODUCTS.

Russia has been lately considering how to overcome the obstacles which hinder her export of cattle and meats to the different European markets. At present, no Russian cattle are admitted into Austria, England, France, or Germany, her export of cattle being confined to Turkey, Italy, Greece, and the island of Malta. Russian sheep are not admitted into Germany, Austria, or England, and hogs are exported only to Germany. In regard to Russian meat, it seems that only Germany places impediments in the way of its import. Although the importation of Russian meat is allowed in Germany, the Russian exporters complain that the chiefs of the different districts in Germany very often abuse the quarantine rules, and do not admit their meat. England admits Russian meat to her markets without any hindrance; but here, it seems, the quality does not suit the taste of the English consumer. It is stated, however, that England has lately discovered that the Russian meat possesses a certain quality of strength, when prepared as beef tea, which meats from other countries do not possess, and, consequently, that England now uses it exclusively for that purpose in hospitals and the like. Russia has thus far played but an insignificant part in the export trade of animals and meat products to the European markets.

The largest consumer of imported meats is England, which imports yearly from 40,000,000 to 45,000,000 poods (1,444,480,000 to 1,661,152,000 pounds). France and Germany import annually from 6,000,000 to 7,000,000 poods (216,672,000 to 252,784,000 pounds). Belgium and Switzerland import much more of animals and meat than they export. Russia exported, in 1893, according to official figures, only 17,000 head of cattle,

82,000 head of hogs, and 163,000 head of sheep; and meat to the value of 175,000 rubles. The largest portion of the European demand is supplied by the United States, amounting to about three-fourths of the whole quantity imported into Europe, followed by Australia and Canada, and then, South America (Argentina and Uruguay). Russia, seeing what a small percentage of the total export she furnished, and knowing how small her home demand for such products is in comparison with the demand of the western European countries, the Russian peasantry consuming principally vegetable food, came to the conclusion that it was necessary to devise some plan to overcome the present prejudices and obstacles that are hindering the export of her cattle and meat. The causes assigned for the unsatisfactory state of this branch of business are the following: The prohibitory measures which are adopted by foreign governments against Russian cattle and meat, because of the presumption that Russia has not a well-organized veterinary or sanitary inspection system, and is, therefore, a source of murrains and epizootics, against which foreign governments enforce strict precautions; the absence of regular steamship communication with foreign ports; the lack of acquaintance with the requirements of foreign markets; careless assorting and packing of the products; the high freights on cattle and meats, with the absence of suitable cars and boats for convenient transportation, and the fluctuation of the prices in Russia and abroad.

A commission has been selected to work out a project for the improvement of the export of Russian cattle and meat. The commission divided its work into four categories, namely: (1) Examination of the present veterinary-sanitary measures; (2) establishment of an organization for a regular export of cattle and meat; (3) examination of the present freight rates, and establishment of regular railway transport stations; and (4) examination of the tariff question.

One firm at Libau tried to supply the London market with Russian meat, but the attempt proved unsuccessful, partly in consequence of the unsatisfactory method of buying cattle and partly on account of the fluctuation of the rate of exchange, although they received what may be considered a very good price, *i. e.*, 6.20 rubles* per pood ($2.19 per 36.112 pounds), making it equal to the second quality of English meat. But now other Russian cattle dealers claim that at 6.20 rubles per pood, meat can be delivered in London at a net profit to the seller of 80 copecks (28 cents) per pood, supporting their assertion with the following figures: Cattle can be brought to Libau at 4.50 rubles ($1.59) per pood, the killing costs from 3½ to 4 copecks (1.23 cents to 1.41 cents) per pood; the transport from Libau to London 80 copecks (28 cents) per pood. So that, according to these figures, one pood of Russian meat delivered at London would actually cost 5.34 rubles ($1.88½), leaving a showing net profit of 86 copecks (30 cents).

*Consul-General Karel states that the values given throughout this report are in paper rubles, the paper ruble being the actual currency of Russia. Measured by the gold standard, the consul-general estimates the paper ruble at 52.1 cents. According to the United States Treasury valuation, the Russian silver ruble, the nominal standard, was quoted at only 35.3 cents on April 1, 1895. The reductions are made according to the United States Treasury valuations.

But it is known to the Russian cattle dealers that foreign buyers lack confidence in Russian meat, and to overcome this, it is recommended to bring live cattle to the ports and frontiers, and establish slaughterhouses at those places, so that the foreign buyer should see for himself the kind of cattle brought and slaughtered and thus feel satisfied as to the quality of the meat offered for sale.

JOHN KAREL,

ST. PETERSBURG, *May 15, 1895.* *Consul-General.*

SUPPLEMENTARY REPORT.

In my report on foreign markets for Russian cattle and meat, dated May 15, I stated that a commission had been appointed to work out a project for the development of cattle and meat exports and that said commission was divided into four categories. Since then, one branch of the commission has held a meeting and recommended the following measures:

(1) To avoid the bringing of contagious cattle diseases from the northern Caucasus into the interior governments, it is ordered that sick cattle shall be killed wherever found.

(2) The quarantine districts to comprise as small territories as possible.

(3) To suspend the quarantine measures regarding the transportation of wool, because it has been established that wool does not spread contagion.

(4) For the export of meat to England, to build special fast boats, which will carry no other freights that would taint the meats. These boats must sail under the Russian flag, and until they are built, an agreement is to be entered into with the Company of Sea Communications, to arrange its boats for carrying the meats.

(5) To establish special agencies in England for the sale of Russian meats.

(6) To build at Libau, the principal seaport for exporting meats, large ice houses and other arrangements to keep the meats in good condition.

(7) Cattle to be transported on the Russian railways with speed.

JOHN KAREL,

ST. PETERSBURG, *May 21, 1895.* *Consul-General.*

THE BELGIAN BUREAU OF LABOR—SUPPLEMENTARY REPORT.*

By a royal decree published in the last number of the Moniteur, the Ministry of Industry and Labor has been created. The recently established bureau of labor becomes a division of this department. The former Ministry of Agriculture, Industry, Labor, and Public Works will hereafter be known as the Ministry of Agriculture and Public Works.

HENRY C. MORRIS,

GHENT, *May 27, 1895.* *Consul.*

* See page 299 of this number.

NOTES.

Export Duty on Java Sugars.—Minister Quinby writes from The Hague, April 9, 1895:

Referring to my predecessor's dispatch dated April 5, 1892, relating to the suspension by the Government of the Netherlands of the export duty on Java sugar until June 1, 1893, I have the honor to state that a measure providing for the readoption of that suspension, for one year, from June 1, 1895, has just passed the second chamber of the States-General and will undoubtedly become a law by the concurrence of the first chamber. In a brief introduction to the measure, the Minister of the Colonies states that by reason of the dissolution of Parliament last year, the bill providing for the continuation of the above-mentioned suspension from June 1, 1893, lapsed; that meanwhile, the price of sugar in Java fell from 9.54 florins ($3.82) per picul (135.1 pounds) to 6.50 florins ($2.61) per picul in December last, while the overstocked European markets and the small sale of sugar in eastern Asia at the present time, on account of the war between China and Japan, will have reduced the prices even more; that, in consequence, five Indian sugar factories have been closed, and a like fate is expected for four others; that temporary suspension has become an urgent necessity, the more so because, by failure of the sugar industry in Java, thousands of the natives would be deprived of a living, and poverty and discontent would result therefrom; that the first of June is chosen as the date for the commencement of the suspension, that being the time at which the shipping of sugar begins; and, lastly, that it is hoped that the need for the suspension will not extend beyond the year.

Philadelphia Commercial Museum.—The Department has received from Dr. William Pepper, president, a letter and circular explaining the scope and purpose of the Philadelphia Commercial Museum. The officers of the museum are:

Board of Trustees.—Hon. Charles F. Warwick, mayor of the city of Philadelphia; James L. Miles, president of select council; Wencel Hartman, president of common council; Isaac A. Sheppard, president of the board of public education; Dr. Edward Brooks, superintendent of public schools (ex-officio); Daniel Baugh, Arthur Biddle, Clarence H. Clark, Charles H. Cramp, Thomas Dolan, Simon Gratz, Thomas Meehan, Francis L. Potts, William Pepper, M. D., LL. D.; Mrs. Cornelius Stevenson, Sc. D.; Charlemagne Tower, jr., LL. D.

The officers of the board are: William Pepper, M. D., LL. D., president; Charles H. Cramp, vice-president; Clarence H. Clark, treasurer; William P. Wilson, Sc. D., secretary pro tem., and director of the museum.

A pamphlet describing the purposes of the museum says:

The Philadelphia Economic and Commercial Museum is a municipal institution, established by the city of Philadelphia.

The museum consists of collections of natural products from all the countries of the world which have already entered our markets, or which may be made available for them, together with samples and cases of manufactured products from foreign countries, which may serve as aids to Philadelphia manufacturers.

The objects of the institution are:

(1) To bring before our manufacturers all the varied products of the world, that they may make the best selection of materials for their own special interests.

(2) To publish all possible scientific and useful information concerning these products which may aid the manufacturer and consumer in his choice.

(3) To place on exhibition manufactured articles and samples, with full information from all markets which we ought to enter or control, and to furnish useful information concerning opportunities in foreign lands to our merchants and manufacturers.

The most important parts of the exhibits from Mexico, Central and South America, Australia, South Africa, and many Asiatic countries at the World's Columbian Exposition, were, at its close, removed to Philadelphia. These exhibits, with renewal and augmentation when necessary, will be permanent features of the museum. Similar products from all other countries have been secured, and are being rapidly added to the collections.

The following shows the division of exhibits and departments:

(1) *Exhibits according to countries.*—Under this classification a visitor may study the resources and commercial features of any particular country; can see the extent and variety of its products; investigate the character of its industries, climate, and soil; means of transportation and manner of communication with the commercial world, and thereby be enabled to derive from the exhibits, maps, charts, and other data collected valuable information necessary in the conduct of his business.

(2) *Exhibits according to kinds of products.*—Under this classification, the manufacturer or merchant interested in any particular commodity may here find systematically arranged and displayed samples of the various products which interest him, collected from all sections of the globe, with all obtainable data possible, whereby he may judge of their commercial value. For instance, the manufacturer of wood will have displayed for his benefit thousands of samples, embracing nearly all the woods of the world, in sufficient size and quantity, and with data necessary for him to determine its value in his particular industry. Likewise, the textile manufacturer may here find samples of the wools, silks, cotton, vegetable fibers, etc., from every foreign country, comprising the most varied and complete collection of its kind in existence. The collections of hides, skins, leather, tanning materials, dyestuffs, pigments, food products, oils, medicinal drugs and herbs, minerals, etc., are intended to enable the dealer in these products to keep fully posted upon the constantly changing conditions of the markets of the world.

(3) *Samples of foreign manufactures.*—This will be a collection of samples of merchandise required in foreign countries, especially the new markets of Spanish America, Australia, South Africa, and other countries, the object being to show to the American manufacturer what his European competitor is doing in the foreign trade of these countries, and suggest to him new lines of goods which he may produce and sell with profit. Novelties and improvements made in European manufacturers in standard goods and staples will be promptly reported. Detailed information as to the source, cost of production, selling prices, import duties, manner of packing, patent rights, etc., will be furnished.

(4) *Bureau of information.*—The museum will have correspondents in all foreign countries, men of experience familiar with the conditions and peculiarities of their markets, who will forward regular reports concerning commercial possibilities and the conditions of trade of their particular localities, thus enabling the Philadelphia manufacturer and merchant to keep in close touch with the markets of the world.

Business directories and copies of important periodicals will be kept on file, and the library will contain books of reference in all languages, statistical reports from all countries, and other publications bearing upon the question of trade.

Detailed information will be furnished manufacturers, upon inquiry, concerning commercial opportunities and the demand for specified products in any locality, together with the reports upon prices, duties, credits, etc.

Special effort will be made to procure early and complete information concerning the plans and specifications of proposed public improvements and private enterprises that may be open to contract.

(5) *A scientific and experimental department.*—In this department a careful study of the scientific value of all products collected will be made. New tan barks will be carefully examined; woods will be studied with reference to their strength, durability, and capabilities of finish; gums and resins will be tested for improved varnishes and lacquer. Many new vegetable fibers will be investigated with reference to new applications, and, in general, new articles will be subject to scientific investigation for the purpose of determining their commercial and educational value. Through the publications of this department, the institution will cooperate and exchange with all other scientific and educational museums of the world.

In his letter to the Department Dr. Pepper says:

As shown by the ordinance of city councils, this institution is a strictly municipal one, and is practically a department of the city government. It is under the direction of, and supported by, the city, whose faith was officially pledged to the care and maintenance of the collections.

Through its bureau of information, it is proposed to furnish to manufacturers and others interested in foreign commerce detailed and specific information concerning all the conditions surrounding trade with foreign countries, somewhat as follows:

Relative to foreign raw products.—(1) Samples, in sufficient size and quantity, to enable the inquirer to judge of their commercial value; (2) data as to extent and cost of production in countries of origin; (3) cost and means of transportation, proximity to market, duties, port regulations, etc.; (4) all commercial statistics of foreign countries.

Relative to manufactured articles.—(1) Samples from European countries, where possible, of all manufactured products salable in foreign countries, with which it may be possible the American manufacturer may compete; (2) specific data, as to countries of origin, manufacturers' and retail merchants' prices, extent of sales in various countries, transportation charges, import rates, character of packing, merchants handling same, and all other data whereby the American manufacturer may be enabled to judge whether he can profitably enter any particular market abroad.

The aid and cooperation of the consular service in collecting this information will be highly appreciated and made available to the greatest number interested throughout the United States.

Dr. Pepper was informed that the Department would be glad to furnish any information received from diplomatic and consular officers which would subserve the purposes of the museum.

Ice Saws for Opening Navigation.—Consul Morris, of Ghent, writes under date of April 22, 1895:

The invention of an ice-sawing apparatus, by which fresh-water bodies may in winter be kept open for navigation, is of considerable importance. During the past season, such a machine has been satisfactorily tested on the River Scheldt, near Antwerp. Mr. Caméré, the inventor, had already foretold its practicability at the congress of navigation held at The Hague last summer. The recent Siberian winter which has visited this portion of the world, gave him ample opportunity for a trial of his machine. It consists of a strongly built boat, with rounded sides, carrying a small portable steam engine. At the bow, a movable framework, which may be raised or lowered at will, carries the axes of two circular saws; these latter are operated by power from the portable engine. The boat itself is moved by means of a

rope run over a windlass, the loose end of the rope being attached to an anchor fixed in the ice at a distance in front of the boat and in the direction to be taken. The windlass upon the boat is operated by hand power, and the speed attained depends upon the rapidity with which it is worked. The framework containing the saws is placed at a suitable height, according to the thickness of the ice, and the saws are set in motion. Being separated from each other at a distance of about five yards, they cut out a kind of band of ice, which the boat breaks into fragments by its forward movement. By reason of its form, it forces these fragments to scatter before it—that is to say, to disappear on the right and on the left under the ice remaining in place. The channel thus traced remains free. Through ice two inches thick this machine forced a passage of 20 feet in length per minute, approximating 2 miles in a day of nine hours. In eight-inch ice the advance was only about one-third of a mile per day. The trials this winter were considered satisfactory, but, as is evident, the machine is susceptible of improvement, such as propulsion by steam power and the addition of other apparatus forward for the crushing and removal of the ice in its path.

Business Outlook in Brazil.—Under date of April 15, 1895, Minister Thompson writes:

With the exception of spasmodic fighting in Rio Grande do Sul and occasional election disturbances in some other States, notably Pernambuco and Bahia, I have the honor to report that tranquility prevails throughout Brazil, and confidence in the Government seems to grow stronger each day. Under the new administration, closer attention is given to civil affairs and a greatly improved financial condition is apparent, restrained measurably by the general depression in trade circles, which seems to prevail in all countries, and the difficulty encountered in concentrating the liabilities of the Government, which are greater than was estimated.

Several impediments must be overcome before any large increase in the consumption of the products of the United States by this country can be accomplished. The mercantile trade of South America, especially on the Atlantic seaboard, has been built up through English and other European channels, and their methods of doing business prevail at every point. Notwithstanding the fact that we consume the major part of the products of Brazil which are exported—principally coffee, shipped though special agents sent here to make purchases—there is not one general American importing house in the city of Rio de Janeiro, where hundreds of English, German, French, Portuguese, and other foreign houses do business aggregating many millions of dollars annually in that line. These countries have banking institutions, with large capital, here; also, many lines of steamships plying between their marts and this wonderful emporium of commerce.

The English dominate in all import traffic. They know the market, and cater to the demands of the trade, which are peculiar in some respects. The consumers of Brazil, *i. e.*, the masses of the people, have the most friendly feeling for our country, and would, no doubt, favor American products of all kinds laid to them at even prices with competing goods, but the channels through which they are to be obtained are not established. Assuming that we can compete with England, Germany, and France in many articles now shipped by them exclusively, American capital invested here in the perfection of trade channels would receive a rich reward. The harvest is ready, but it is useless to apply the sickle until avenues of commerce maintained by American capital and protected by the American flag are established.

Emigration from Wurtemberg.—Consul Johnson, of Stuttgart, writes, under date of April 9, 1895:

The statistics of the Wurtemberg emigration bureau for the year 1894, having a peculiar interest for the United States, I beg to send the following report:

For years a greater emigration took place from Wurtemberg, in proportion to its inhabitants, than from any other part of Germany. In 1891, 5,629 persons left Wurtemberg for countries beyond the seas; in 1892, 5,720; in 1893, 5,045; while for the year 1894 the number fell to 2,541. It is reported that this remarkable decrease in emigration is restricted entirely to that portion of the emigrants who go to the United States. In 1893, 80 persons only, left Wurtemberg for countries beyond the seas other than the United States, and in 1894 the same number. The above figures include those persons who go to the United States temporarily, as also those who, after only a temporary sojourn in Wurtemberg, returned to the United States.

Prices of Petroleum in Luxemburg.—Vice-Commercial Agent Murphy, of Luxemburg, in a report to the Department, April 23, 1895, says:

During the past week the retail price of petroleum has doubled in this market, the price now prevailing being 10 cents per quart. The local papers assert that this sudden rise in price is due to the decreasing productiveness of American oil wells, and advise the use of Russian petroleum. Heretofore, the Grand Duchy of Luxemburg has been almost entirely dependent on the United States for its illumination, but it now seems possible that candles and gas may soon—at least to a considerable extent—close this market to American petroleum.

Subsequently (April 26), Mr. Murphy writes that the retail price of petroleum in Luxemburg at that date was 7 cents per quart.

Removal of Weeds in New Zealand.—Consul Connolly writes from Auckland, April 19, 1895:

The inclosed is a section of the public works act of New Zealand which gives power to any city, town, road board, or county council in the colony to remove, at the expense of the owner, should he fail to comply with the terms of the act after due notice, any noxious weeds or other plants or trees which may be deemed a nuisance in any street or public highway within the colony:

"Section 135 of the public works act, 1894, is hereby enacted as follows:

"(1) The board may order the occupier, or, in case there is no occupier, then the owner, of any land abutting upon any road or street (*a*) to remove any part of a tree, or lower or trim any part of a hedge overhanging a road or street, so as to injure such road or street, or obstruct the traffic thereon, or obstructing any ditch or drain appertaining thereto; and (*b*) to cut down or grub up, as the board may direct, and remove all obstructions to traffic or drainage, arising from the growth of plants upon such road or street, up to the middle line of such road or street along the whole frontage of the land occupied or owned by him.

"(2) In the event of any such occupier or owner failing to comply with such order within two months from the service thereof, he shall be liable to a penalty not exceeding £1 for every day during which such order is not obeyed, and a further sum equal to the cost incurred by the board in removing such tree, or lowering or trimming such hedge, or cutting down or grubbing up and removing any such plants then growing on such road or street; and the said cost shall be a charge on the land, and may be recovered by the board as rates are recoverable by a road board under any rating act for the time being in force in the district of the said board.

"'Cut down' in this section means cutting down and keeping cut down the stems and roots of any plants so as to prevent their throwing out any leaf, offshoot, or flower.

"'Plants' means and includes gorse, sweetbriar, blackberry, acacia, broom, and fennel."

Remedy for Potato Disease.—With reference to the report of Consul Taney, of Belfast, upon the use of a mixture of sulphate of copper and lime as a remedy for potato disease in Ireland,* Mr. H. F. McIntosh, publisher of The Cultivator, of Omaha, Neb., writes to the Department:

I beg to suggest that the Bordeaux mixture—Strawson's process (?)—has been used for potato blight in this country for at least three years, and the results of its use have been given in various experiment station bulletins. Perhaps Secretary Morton can send Consul Taney a collection of bulletins on the subject, those of Cornell, N. Y., and the Minnesota Experiment Station especially, which may be of great use to the Irish people.

The attention of the Secretary of Agriculture has been called to Mr. McIntosh's suggestion.

Cable between Mozambique and Majunga.—Consul Hollis writes from Mozambique March 23, 1895:

On the 21st instant, the French steamer *François Arago* laid the shore end of the submarine telegraph cable about to be constructed between this port and Majunga, Madagascar. After buoying the sea end of this piece of cable, the steamer departed for Majunga, from which port she will begin laying the deep sea portion of the cable. A number of French telegraph officials are in town and they have already secured a suitable building for a station located about 200 yards from the premises of the Eastern Telegraph Company, which company, by the way, has nothing to do with this new cable.

In a dispatch dated April 6, Consul Hollis writes that the laying of the cable has been completed, and that the line has been turned over by the construction company to the French Government. It is in full working order and is being operated by French officials.

Steamship Service from Central America.—In a dispatch from San Juan del Norte, Nicaragua, April 24, 1895, Consul O'Hara says:

Mr. Frank E. Keen, late agent at this port for the Prince Line of steamships, has received a letter from the New York agents of the Atlas Line of mail steamships stating that, hereafter, one of their steamships will leave Cartagena every fourteen days for New York, touching at Colon and San Juan del Norte.

In a previous dispatch (April 18, 1895), Consul O'Hara stated that the merchants at San Juan del Norte had been advised that the management of the Prince Line of steamships had decided to discontinue touching at that port. This line, he added, controls sixty steamships, one of which has heretofore left New York once a month for San Juan del Norte.

From San José, Costa Rica, under date of April 15, 1895, Minister Baker writes:

Mr. W. P. Tisdel, general agent of the Pacific Mail Steamship Company, has recently renewed the contract of that company with the Government of Costa Rica, the last of the

* Published in CONSULAR REPORTS No. 175 (April, 1895), p. 587.

five Central American States. The contract took effect March 14, 1895, and will expire on April 8, 1898. The term of this contract is two years shorter than that of the contracts with the other republics. The company is to receive a subsidy of $12,000 (Costa Rican currency) annually for transporting the mails and having its steamers touch at the port of Puntarenas three times a month each, going north and south.

Shipments from Halifax to Colon.—Consul O'Hara, of San Juan del Norte, Nicaragua, reports to the Department, April 18, 1895:

In the issue of April 3, 1895, of the Colon Telegram, published in Colon, Columbia, appears the announcement of the expected arrival from Halifax, Nova Scotia, of a cargo of flour, fish, pease, potatoes, sugar, brooms, lumber, etc., to be sold in Colon.

Shipping Concessions for Madeira.—Consul Jones writes from Funchal, Madeira, May 2, 1895:

A telegram from the Minister of Foreign Affairs at Lisbon to the civil governor of Madeira, of this date, says: "A decree is published to-day in which foreign vessels are given liberty to carry cargo between Portugal and the island of Madeira; also, continuing the law for five years exempting all vessels with cargo from tonnage dues in the port of Funchal."

Nitrate Shipments to the United States.—Vice-Consul Greene, of Antofagasta, Chile, writes under date of April 6, 1895:

The W. R. Grace & Co.'s monthly line of British steamers from New York to ports on the southwest coast is evidently helping trade, and very considerable quantities of a certain class of goods are imported for this province and Bolivia for these steamers. The charges are reasonable, and they relieve merchants from the necessity of holding large stocks. They can now respond to frequent smaller orders.

Over $200,000 (American gold) value in nitrate of soda has been shipped during the March quarter to the United States, but, as heretofore, mainly for the arts and manufactures and almost nothing for agriculture. In a report recently asked for by the Secretary of Agriculture, I took occasion to explain that, by showing our planters and farmers the advantages found in its use in Europe, and by explaining its economical use, he can build up a great and valuable trade with Chile and Bolivia. Home cargoes of nitrate will give outward cargoes of American goods.

Cholera in Russia.—Consul-General Karel, of St. Petersburg, reports to the Department April 11, 1895:

The Russian official returns show that cholera still prevails in the governments of Volhynia and Podolsk, and that in the respective places the following cases occurred: In the government of Volhynia, from February 24 to March 9, 1895, there were 69 cases and 44 deaths, and from March 10 to March 16, 56 cases and 4 deaths. In the government of Podolsk, from March 3 to March 9, 1895, there were 5 cases and 3 deaths, and from March 10 to March 23, 11 cases and 6 deaths.

State Aid to British Industrial Schools.—In a report to the Department, dated April 27, 1895, Consul-General Collins, of London, says:

I have the honor to report that the contributions toward the support of industrial and reformatory schools by the Government of Great Britain, in 1894, were: Industrial schools, £188,884 ($922,510); day industrial schools, £7,712 ($37,227); truant schools, £7,338 ($35,707); reformatories, £72,676 ($353,641).

Steam Tramway in Venezuela.—Consul Plumacher, of Maracaibo, under date of April 24, 1895, informs the Department of the approval by the Congress of Venezuela of a contract celebrated at the close of the late revolution, with Manases Capriles and associates, for the construction of a steam tramway from the port of La Vela to the city of Coro. This railway, adds Mr. Plumacher, will be of great benefit to the section of which Coro is the metropolis, and should have an immediate effect upon both its export and import trade.

Venezuelan Regulations as to Baggage.—Under date of April 25, 1895, Consul Plumacher, of Maracaibo, writes:

As it frequently happens that passengers arriving at Venezuelan ports from abroad have trouble respecting their baggage, the collector of customs at this port has published extracts from the law upon the subject, defining also what may be properly considered as baggage. I have the honor to inclose a translation of these extracts, believing that their publication may be of service to persons visiting this country.

"ARTICLE 54. The following will be considered as baggage: Clothing, shoes, bed, saddle, arms, professional instruments, and other articles already used, which are clearly for the personal use of the passenger, presented by him to the custom-house. Furniture, although already used, will not be considered as baggage, and will pay the corresponding duties, with discount for wear, estimated by the inspectors in union with an expert appointed by the party interested.

"ART. 55. Passengers may not bring among their baggage foreign effects which have not been used, the duties upon which may exceed 500 bolivars ($96.50), and should they exceed this sum the goods which cause the excess shall be confiscated, although they may have been duly manifested. Passengers bringing among their baggage unused foreign effects within the limits of the maximum allowed by this article, should be manifested to the custom-house before the inspection of the baggage, and will pay the corresponding duties; should the goods not be manifested before inspection duties thereon will be paid and the goods declared contraband.

"ART. 57. Baggage embarked in the Antilles must be weighed and examined in the apartment devoted to inspection by the chiefs of the custom-house, assisted by the commandant of the coast guard and the official weigher, having at sight the manifest visaed by the consul, which must be presented by passengers. Should this manifest of baggage not be presented, or received at the custom-house, a fine of from 125 to 1,000 bolivars ($24.13 to $193), according to the judgment of the inspectors, will be imposed, and the unused goods will be declared contraband."

Venezuelan Duty upon Bitters.—Consul Plumacher writes from Maracaibo, April 23, 1895:

I inclose translation of an executive resolution fixing the import duty upon Siegert's Angostura Bitters at 15 cents per kilogram (2.2046 pounds).

"The president of the Republic in use of the powers conferred upon him by article 10 of the import tariff law, has determined that Siegert's Bitters, manufactured in Port of Spain, chiefly of natural products of Venezuela, shall be scheduled in the fourth tariff class (15 cents per kilogram) when imported from abroad through the custom-houses of the Republic."

Dairy Farming in Canada.—Consul Twitchell, of Kingston, Canada, says, in a dispatch dated May 1, 1895:

A school of mining and agriculture was opened in Kingston last fall. The tendency in the farming community here is to subordinate all other interests to butter and cheese making. A dairy school was in session all winter, so well supplied with milk that it was able to largely control the price in the city of superior butter. The beginning was made by a company interested in developing the resources of Canada, subscribing $35,000. The Ontario Government granted incorporation, and gave $3,500 toward the building and equipments. The Dominion Government furnishes the teachers at an expense of about $250 a month. The Canadians feel satisfied with the position which their cheese occupies in the markets of the world, and seem to be determined that their butter shall occupy a position equally as satisfactory. By a combination of private enterprise with the provincial and Dominion governments, Canada is placing within the reach of her people the best practical education obtainable upon the subjects of butter and cheese making.

Abatement of Export Tax in Puerto Rico.—Consul Hall, of San Juan, Puerto Rico, writes to the Department under date of April 21, 1895:

To-day the Governor-General of Puerto Rico, by proclamation, based upon a cablegram received yesterday from the Minister of Ultramar in Madrid, has abated 25 per cent of the loading tax of $1 per 100 kilograms (220.46 pounds), which, up to this time, has been levied upon all sugars and pure molasses exported from this island, said abatement to become operative after 12 o'clock midnight of April 21, 1895.*

Foreigners in German Technical Schools.—In a report to the Department, dated April 16, 1895, Consul Monaghan, of Chemnitz, says:

An effort is being made here to keep foreigners out of the technical, industrial, and industrial art school. A petition to that effect is being circulated in all the Saxon cities. I have asked to see a copy of the petition, but thus far have not been successful. I am told that while its purpose, as expressed in the preamble, is general, its real object is to keep out Englishmen and Americans. This, however, is only hearsay—one of those things that one hears everywhere when conversation about the petition comes up.

*This action is in accordance with a decree of the Spanish Government, published in the official Gaceta de Madrid of April 20, to the effect that the export duty previously imposed upon sugars of all classes and upon honeys "de purga" of the island of Puerto Rico, be reduced 25 per cent.

Swiss Exposition of 1896.—Consul Ridgely writes from Geneva, April 11, 1895:

Under date of the 26th of January last, I transmitted to the Department of State a report concerning the Swiss National Exposition which is to be held at Geneva in 1896.* A report on the same subject from the consul at Zurich was printed in CONSULAR REPORTS No. 173 (February, 1895), p. 297, and in that report, an erroneous statement is made which requires prompt correction. My colleague states that, at the Swiss exposition, "American producers and manufacturers may exhibit and thus give the Swiss people an opportunity to compare American goods with those of other countries." This statement is misleading. As stated in my report of the 26th of January, the Swiss Exposition is to be purely a national affair, and neither the exhibits of America nor of any other country except Switzerland will be received. The exposition is to be held in 1896, beginning the 1st of May and continuing until the 15th of October.

Consular Reports Reprinted Abroad.—The April number of the British Board of Trade Journal reprints, page 402, the report of United States Commercial Agent Stern, of Bamberg, on "Bargain Sales in Germany," published in CONSULAR REPORTS No. 174, March, 1895, p. 426; on page 453, Consul-General de Kay's report on the "Berlin Industrial Exhibition, 1896," also published in CONSULAR REPORTS No. 174, p. 402; on page 455, Consul Germain's report on the "Swiss Hotel Industry," published in CONSULAR REPORTS No. 173, February, 1895, p. 296; on page 456, Consul-General Jones's report, "Economic Revival in Italy," published in CONSULAR REPORTS No. 174, p. 396. The May number of the Board of Trade Journal reprints, on page 506, the report of Consul-General Mason, of Frankfort, on "German Commercial Credit in Russia," published in CONSULAR REPORTS No. 174, p. 382; and on page 575, the report of Consul Meeker, of Bradford, on "Fibroline Yarn," published in CONSULAR REPORTS No. 175, April, 1895, p. 580.

* Printed in CONSULAR REPORTS No. 175 (April, 1895), p. 602.

FOREIGN REPORTS AND PUBLICATIONS.

Uruguayan Agricultural Exhibition.—In a dispatch to the Foreign Office, Mr. W. Baring, British minister at Montevideo, incloses a memorandum drawn up by Consul Grenfell on the subject of the Uruguayan Agricultural Exhibition (British Board of Trade Journal, May, 1895, p. 573). The memorandum is, in part, as follows:

On the 12th of April, the National Agricultural Exhibition was formally inaugurated by the President of the Republic, who was accompanied by the presidents of the two chambers, his ministers of state, the members of the diplomatic and consular bodies. The exhibition, in general, is doubtless a very fair display of the productive resources and capabilities of the country. The range of useful products is also as wide as could be shown, in all probability, by most countries under similar conditions of civilization and practical experience in agriculture, and embraces products of both semitropical and temperate climates. But the industries for the conversion of those raw products to immediate use are still very immature. The pastoral industry, being by far the greatest in the Republic, naturally monopolizes the largest share of the exhibition. The show of live stock is below what might have been expected, and by far the finest animals exhibited are those that have been imported of late years for breeding purposes; but the produce of these in no way do justice to their sires or dams. This may easily be accounted for, as want of experience and knowledge in live-stock breeding is somewhat wanting in Uruguay. In the agricultural sections there are good qualities of cereals, especially wheat, maize, and barley. The most remarkable advance is clearly visible in the wine industry, and a fair show of good, if not fine, wines manufactured in the country forms a very interesting part of the exhibits. The machinery department, showing agricultural machinery and implements imported by various firms from manufacturers in Great Britain, the United States, France, and Germany is, on the whole, good.

Photographic Exhibition at Moscow in 1896.—Mr. John Michell, British consul-general at St. Petersburg, in a report to the Foreign Office, states that according to a communication received from Consul Medhurst, of Moscow, a photographic exhibition will be held in that city, under the presidency of the Grand Duke Serge, during the months of February and March, 1896. (British Board of Trade Journal, May, 1895, p. 562.) The exhibition will be of an international character. The following is an extract from the regulations:

The exhibition will open the 11th (23d) of February and close the 11th (23d) of April, 1896.

Russian and foreign exhibitors are equally entitled to take part and receive rewards.

Exhibitors receiving awards of medals will be given a corresponding diploma, but the value of the medals must be paid by the exhibitors before receiving them.

Wall spaces, to a height of 4 arshines (9 feet 4 inches) from the floor, cost 5 rubles per arshine (28 inches) of width.

The spaces on the floor to a height of 3 arshines cost 6 rubles per square arshine.

Government and scientific societies are free from payment.

Show cases and all decorations of the exhibits to be provided by the exhibitors at their own cost.

Applications for space, together with the amounts due for the same, to be forwarded not later than the 1st (13th) of January, 1896. Exhibits will be received as late as the 20th of January (1st of February), 1896, and are all to be directed Moscow Photographic Exhibition, 1896.

Exhibits must be removed by their owners within fourteen days after the 11th (23d) of April, 1896, the date of closing. Exhibits not removed within the specified time will be considered forfeited to the society.

Permanent Industrial Exhibition at Athens.—The British Board of Trade Journal for April, 1895, p. 448, states that Mr. E. G. B. Maxse, British consul at the Piræus, in a report to the Foreign Office, transmits the following note on the proposed permanent industrial exhibition at Athens:

A permanent industrial exhibition has been organized by the Société Biotechnique at Athens, and will be officially opened on the 28th of April (16th of April old style). This exhibition, although intended only for native products, will be accessible to foreign exhibitors of such articles as may assist in the development of Grecian industries.

All expenses connected with the exhibits will have to be paid by the exhibitors, who will, moreover, have to pay a tax of 2 drachmas for each article worth 100 drachmas. Articles worth more will be charged half a drachma per 100 in addition. The committee of the exhibition undertakes to sell the exhibits at a commission of 5 per cent.

The exhibition will be open each year from the 13th of March (1st of March old style) to the 12th of July (30th of June old style), and from the 27th of September (15th of September old style), to the 27th of January (15th of January old style).

Imports Prohibited by Russia.*—On the 9th of January, 1895, the Emperor of Russia sanctioned the following notice from the council of the Empire:

(1) The list of goods (merchandise) forbidden to be imported (general customs tariffs for European commerce, code of laws I, VI, edition 1892), is completed by the following provisions:

ARTICLE 228. All goods and articles invested, toward religion, with an irreverential, blasphemous, or impious character, provided with labels, marks, etc., with religious designs of the same character, are forbidden to be imported into Russia.

Castor-Oil Production in France.*—By the terms of article 13 of the law of January 11, 1892, seeds of the castor oil plant intended to be converted into oil are, as oleaginous seeds, admitted under the system of temporary admission on the conditions determined by article 5 of the law of July 5, 1836. A ministerial decision of the 21st of February last, pronounced by

* Translated from the Moniteur Officiel du Commerce of April 4, 1895.

advice of the consultative committee on arts and manufactures, provides that the importation of the seeds and the reexportation of the oil can not be effected except in ports where there are Government warehouses, or on the land frontiers in localities where there exists either an office open to transit or a principal receiver's office. The declarers shall engage, by a tender on valid security, to bond or to reexport, after six months, the oils produced by the trituration of the seeds. The production of oil from the seeds shall be fixed at 40 per cent of the weight mentioned in each permit delivered by the custom-houses.

Foreign Trade of the United Kingdom.—The following statistics showing the imports and exports of the United Kingdom for the month of April and for the four months ending April 30, 1894 and 1895, are compiled from British official returns. Similar statistics for the months of March, February, and January, 1895, will be found in CONSULAR REPORTS Nos. 176, 175, and 174, respectively:

Imports and exports during April, 1894 and 1895.

Articles.	1894.	1895.	Increase.	Decrease.
Imports.				
Animals, living (for food)	$3,475,151	$2,918,520	.....	$556,631
Articles of food and drink:				
Duty free	53,632,950	55,403,099	$1,770,149	.....
Dutiable	9,191,426	9,107,361	.....	84,065
Tobacco	1,204,665	1,127,292	.....	77,373
Metals	8,084,650	6,578,379	.....	1,506,271
Chemicals, dyestuffs, and tanning substances	2,769,975	2,783,065	13,090	.....
Oils	2,729,544	3,233,460	503,916	.....
Raw materials for textiles	35,706,810	34,513,435	.....	1,193,375
Raw materials for other industries and manufactures	17,504,900	14,623,624	.....	2,881,276
Manufactured articles	28,976,023	30,305,550	1,329,527	.....
Miscellaneous	6,757,132	6,039,328	.....	717,804
Parcel post	363,296	472,055	108,757	.....
Total imports	170,396,522	167,105,168	.....	3,291,354
Exports.				
Animals, living	207,734	236,945	29,211	.....
Articles of food and drink	3,801,212	3,741,618	.....	58,594
Raw materials	8,884,090	6,829,018	.....	2,054,972
Articles manufactured and partly manufactured:				
Yarns and textile fabrics	36,161,375	36,191,520	30,145	.....
Metals and manufactures of	11,805,247	10,861,316	.....	943,931
Machinery and millwork	5,596,494	6,191,931	595,437	.....
Apparel and personal articles	2,942,431	2,980,498	38,067	.....
Chemicals, chemical products, and medicinal preparations	3,638,766	3,287,265	.....	351,501
All other manufactures	12,054,615	13,153,718	1,762,752	.....
Total manufactures	72,198,928	72,666,248	467,320	.....
Parcel post	354,690	475,936	120,246	.....
Total British goods	85,446,654	83,949,765	.....	1,496,889
Foreign products	23,407,223	32,155,588	8,748,365	.....
Total exports	108,853,877	116,105,353	7,251,476	.....

Imports and exports during the four months ending April 30, 1894 and 1895.

Articles.	1894.	1895.	Increase.	Decrease.
Imports.				
Animals, living (for food)	$11,644,255	$10,648,180		$996,075
Articles of food and drink:				
Duty free	213,780,975	207,462,921		6,318,054
Dutiable	37,420,299	38,061,364	$641,065	
Tobacco	4,019,011	4,241,210	222,199	
Metals	32,630,759	27,418,411		5,212,348
Chemicals, dyestuffs, and chemical preparations	13,954,549	13,033,308		921,241
Oils	11,455,853	11,998,091	542,238	
Raw materials for textiles	171,239,980	153,371,654		17,868,326
Raw materials for other industries	54,685,748	52,090,666		2,595,082
Manufactured articles	112,762,752	115,792,961	3,030,209	
Miscellaneous articles	29,473,020	21,659,942		7,813,148
Parcel post	1,333,488	1,814,565	481,097	
Total imports	694,400,759	657,593,273		36,807,486
Exports.				
Animals, living	601,817	810,403	208,586	
Articles of food and drink	15,012,111	14,178,720		833,391
Raw materials	31,948,258	25,408,354		6,539,904
Articles manufactured and partly manufactured:				
Yarns and textiles	162,297,521	161,763,411		534,110
Metals and manufactures of	43,127,330	40,421,340		2,705,990
Machinery and millwork	20,316,409	21,782,897	1,466,398	
Apparel and articles of personal use	14,479,995	14,027,452		442,543
Chemicals, and chemical and medicinal preparations	14,559,627	13,094,260		1,465,367
All other manufactures	44,012,478	47,186,079	3,143,601	
Total manufactures	298,793,450	298,275,439		508,011
Parcel post	1,515,229	1,815,106	299,877	
Total British goods	347,870,865	340,487,022		7,383,843
Foreign products	95,138,139	96,103,383	965,244	
Total exports	443,009,004	436,590,405		6,418,699

Imports and Exports of Canada.—The following statistics, showing the imports and exports of the Dominion of Canada, for the nine months ending March 31, 1894 and 1895, are taken from the official publication of the Department of Trade and Commerce, Ottawa, 1895:

IMPORTS.

Description.	Nine months ending March 31—			
	1894.		1895.	
	Value.	Duty.	Value.	Duty.
Dutiable imports	$48,646,943	$15,302,863	$42,979,130	$13,278,856
Free of duty	33,729,148		31,014,535	
Total	82,376,091	15,302,863	73,993,665	13,278,856
Coin and bullion	3,821,827		4,452,835	

EXPORTS.

Description.	Nine months ending March 31—			
	1894.		1895.	
	Home produce.	Foreign produce.	Home produce.	Foreign produce.
Produce of the mine	$4,307,530	$200,314	$4,864,686	$172,393
Produce of the fisheries	9,278,206	289,503	8,667,449	149,335
Produce of the forests	19,113.225	84,363	17,586,805	199,157
Animals and their produce	25,205,700	901,231	28,300,446	1,052,109
Agricultural produce	14,991,671	7,400,636	14,306,347	1,874,760
Manufactures	5,667,750	487,049	5,455,560	875,765
All other exports	115,787	178,311	111,760	209,694
Total	78,679,869	9,541,407	79,293,053	4,533,213
Bullion	235,542	.....	232,830	.....
Coin	.....	1,149,488	.....	2,164,181

Revenue and expenditure.

Description.	Nine months ending March 31—	
	1894.	1895.
From customs	$15,115,732	$12,892,214
From excise	6,710,835	5,788,543
From post-office	2,158,491	2,200,012
From public works, including railways	2,745,131	2,614,743
Miscellaneous	1,115,657	1,057,587
Total	27,845,846	24,553,099
Expenditures	23,331,755	23,844,991

East Indian Cotton Crop of 1894–95.—The final memorandum on the present cotton crop has been issued by the Government of India, and is published in the Times of India of March 9. Though each year the return is an improvement on its predecessor, it is still very far from complete. The total area is returned at 14,865,100 acres, as compared with 15,399,400 acres last season. The yield is estimated in bales of 400 pounds each, also excluding the Nizam's territory in Hyderabad at 1,727,000 bales, as compared with 2,033,300 bales, a decrease of 306,300 bales, or 15.1 per cent.

The total area of cotton cultivation in India, says the British Board of Trade Journal for April, 1895, p. 462, we place this season at 16,450,000 acres, as compared with 16,956,000 acres last season, and a decennial average of 16,277,000 acres, a decrease this season on last of 506,000 acres, but an increase on the mean of 173,000 acres. In our opinion, the official estimate for this season is short of the actual by 1,585,000 acres, and last year by 1,557,000 acres, while the normal total is over 3,000,000 acres short of the

actual. When we come to examining the question of outturn, the divergence between our estimates and the official ones materially expands. Instead of 1,727,000 bales this season (excluding Hyderabad), we place the figures at 2,621,000 bales, while the corrected returns of the past season we put at 2,837,000 bales, as compared with only 2,033,000 bales, the official estimate.

CONTENTS.

		Page.
I.—Tenement Houses in Foreign Cities		381
(Berlin, 382—Brussels, 386—Glasgow, 398—Liverpool, 408, 415—London, 421—Paris, 454—Recommendations to the New York Legislature, 460—The New Tenement-House Laws, 467.)		
II.—Copper Rolls in France and Russia		472
(Paris, 472—Lyons, 473—Roubaix, 473—St. Etienne, 474—Russia, 475.)		
III.—Egyptian Cotton Prospects for 1895	*Penfield*	476
IV.—The Kola Nut in Jamaica	*Eckford*	477
V.—Bag Manufacture in Valencia	*Mertens*	478
VI.—Proposed Duty on Cigars and Cigarettes in Belgium	*Roosevelt*	479
VII.—Present and Proposed Belgian Tariff	*Roosevelt*	479
VIII.—Butter and Artificial Butter in Belgium	*Roosevelt*	488
IX.—New Tariff of the Bahamas	*McLain*	490
X.—Trade Between the United States and Russia	*Karel*	495
XI.—Recent Development of Russia	*Morris*	499
XII.—American Vines in Russia	*Karel*	500
XIII.—Condition of Russian Winter Grain	*Karel*	502
XIV.—Grading Grain in Russia	*Heenan*	504
XV.—American vs. Russian Petroleum in Denmark	*Kirk*	505
XVI.—Austrian Military Shoes	*Judd*	507
XVII.—New Commercial Treaties		510
(The Netherlands and Portugal, 510—Paraguay and Belgium, 512.)		
XVIII.—German Importation of Grain	*Gottschalk*	513
XIX.—Snuff in Denmark and Sweden	*Kirk*	514
XX.—Aspen Wood for Matches	*Stephan*	515
XXI.—Sample Room for Thuringian Products	*Moore*	519
XXII.—Wages in Japan	*McIvor*	521
XXIII.—Night Refuge for Workingmen	*Mantius*	523
XXIV.—German and French Dams and Reservoirs	*Monaghan*	525
XXV.—Notes (Labor Arbitration in France—Colombian Export Duty on Coffee—Swiss Emigration—Swiss Imports by Way of France—Cereal Imports into Germany—Quarantine Laws of Jamaica—Old Letters of Exchange—Tea Season of Hankow; Native Rebels Executed—A United States Iron Company in Cuba—Swine Disease in Germany—Tariff Changes in Russia—Refined Petroleum in Peru—Sugar Crop of Cuba—The Wheat Crop in France—Paper for Hosiery Molds—Silk Industry in Turkey—Exports of Oranges and Lemons from Palermo—Consular Reports Reprinted Abroad—Consular Reports Transmitted to Other Departments)		527

Page.

XXVI.—Foreign Reports and Publications (Expositions and Museums—Postal Service between France and Algeria—Foreign Trade of the United Kingdom—New Line of Steamers Between Trieste and Manchester—Agriculture in German East Africa—German Iron Industry and the Russian Market)..... 535

REPORTS BY COUNTRIES.

	Page.
AUSTRIA:	
Military shoes in	507
BAHAMAS:	
New tariff of the	490
BELGIUM:	
Butter and artificial butter in	488
Commercial treaty with Paraguay	512
Present and proposed tariff of	479
Proposed duty on cigars and cigarettes in	479
Tenement houses in Brussels	386
CHINA:	
Native rebels executed	531
Tea season of Hankow	530
COLOMBIA:	
Export duty on coffee in	527
CUBA:	
A United States iron company in	531
Sugar crop of	532
DENMARK:	
American vs. Russian petroleum in	505
Snuff in	514
EGYPT:	
Cotton prospects for 1895	476
ENGLAND:	
Artisans' dwellings in Liverpool	415
Paper for hosiery molds in	533
Tenement houses in Liverpool	408
Tenement houses in London	421
FRANCE:	
Copper rolls in Lyons	473
Copper rolls in Paris	472
Copper rolls in Roubaix	473
Copper rolls in St. Etienne	474
Dams and reservoirs in	525
Labor arbitration in	527
Tenement houses in Paris	454
The wheat crop in	532

	Page.
GERMANY:	
Aspen wood for matches in	515
Cereal imports into	529
Dams and reservoirs in	525
Importation of grain into	513
Sample room for Thuringian products in Weimar	519
Swine disease in	531
Tenement houses in Berlin	382
ITALY:	
Exports of oranges and lemons from Palermo	533
Night refuge for workingmen in	523
JAMAICA:	
Quarantine laws of	529
The kola nut in	477
JAPAN:	
Wages in	521
NETHERLANDS:	
Commercial treaty with Portugal	510
PARAGUAY:	
Commercial treaty with Belgium	512
PERU:	
Refined petroleum in	532
PORTUGAL:	
Commercial treaty with the Netherlands	510
RUSSIA:	
American vines in	500
Condition of winter grain in	502
Copper rolls in	475
Grading grain in	504
Recent development of	499
Tariff changes in	531
Trade with the United States	495
SCOTLAND:	
Tenement houses in Glasgow	398
SPAIN:	
Bag manufacture in Valencia	478
Old letters of exchange in	530
SWEDEN:	
Snuff in	514
SWITZERLAND:	
Emigration from	528
Imports into, by way of France	529
TURKEY:	
Silk industry in	533

UNITED STATES: Page.

Tenement houses in New York—

New laws concerning..... 467

Recommendations to the legislature concerning..... 460

Trade with Russia..... 495

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	do	Dollar	1.00	
Chile‡	Gold and silver	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba	do	do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands‡	Gold and silver	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—$2 ($2.02,7).
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

*In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

†On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

‡The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; bolivi-ano there-after.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	.....	.....
China	Silver	Haikwan tael	1.61	1.61	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	.....	.....
	Silver		.....	.....	.....	.....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; bolivi-ano there-after.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	.....	.....	.....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	.....	.....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1892. Jan. 1.	1892. April 1.	1892. July 1.	1892. Oct. 1.	1893. Jan. 1.	1893. April 1.	1893. July 1.	1893. Oct. 1.
Austria-Hungary *	Gold crown	.....	.....	.....	$0.20,3	.....	.....	.....	.....
	Silver florin	$0.34,1	$0.32,8	$0.32	.....	.....	.....	.....	.....
Bolivia	Silver boliviano	.69,1	.66,5	.64,9	.61,6	$0.61,3	$0.61	$0.60,4	$0.53,1
Central America	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
China†	Shanghai tael	1.02,1	.98,2	.95,8	.91	.90,6	.90,1	.89,2	.78,4
	Haikwan tael	1.13,7	1.09,3	1.06,7	1.01,3	1.01	1.00,4	.99,4	.87,4
Colombia	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Ecuador	do	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
India	Silver rupee	.32,8	.31,6	.30,8	.29,3	.29,2	.29	.28,7	.25,2
Japan‡	Silver yen	.74,5	.71,6	.69,9	.66,4	.66,1	.65,8	.65,1	.57,3
Mexico	Silver dollar	.75	.72,2	.70,4	.66,9	.66,6	.66,2	.65,6	.57,7
Peru	Silver sol	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Russia§	Silver ruble	.55,3	.53,1	.51,9	.49,2	.49,1	.48,8	.48,3	.42,5
Tripoli	Silver mahbub	.62,3	.60	.58,5	.55,5	.55,3	.55	.54,5	.47,9
Venezuela ‖	Silver bolivar	.13,8	.13,3	.13	.12,3	.....	.....	.....	.....

Countries.	Monetary unit.	1894. Jan. 1.	1894. April 1.	1894. July 1.	1894. Oct. 1.	1895. Jan. 1.	1895. April 1.	1895. July 1.
Bolivia	Silver boliviano	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1	$0.48,6
Central America	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
China†	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67.3	.65,2	.71,8
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6	.80
	Tien-Tsin tael	.....	.....	.....	.72,7	.71,4	.69,2	.76,1
	Chefoo tael	.....	.....	.....	.71,7	.70,4	.68,3	.75,1
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21,0	.23,1
Japan‡	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6	.52,4
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9	.52,8
Persia	Silver kran	.....	.....	.....	.....	.....	.....	.48,9
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
Russia§	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3	.38,9
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8	.43,8

* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

§ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

‖ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4 422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11 4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096 5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110 24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93 7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4 2 acres.
Do	Paraguay	7[illegible].9 yards.
Do	Paraguay (square)	8 077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	3[illegible].3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1 54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3 888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1 03 acres.
Frail (raisins)	Spain	5[illegible] pounds.
Frasco	Argentine Republic	2 5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	2[illegible]4 17 gallons.
Garnice	Russian Poland	0 88 gallon.
Gram	Metric	15 432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26 417 gallons.
Joch	Austria-Hungary	1 422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2 2046 pounds.
Kilometer	do	0 21376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5 13 bushels.
Korree	Russia	3 5 bushels.
Last	Belgium and Holland	[illegible]5 134 bushels.
Do	England (dry malt)	82 52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11[illegible] bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,933 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1 0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1 0161 pounds.
Do	Mexico	1 01465 pounds
Do	Peru	1 0143 pounds.
Do	Portugal	1 011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1 0567 quarts.
Livre (pound)	Greece	1 1 pounds.
Do	Guiana	1 0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1¾ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

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TENEMENT HOUSES IN FOREIGN CITIES.

The act of the New York legislature appointing a committee to examine into the tenement-house question in the city of New York, and "to report thereupon to the next legislature," became a law on May 4, 1894. Under this law, the following were named as the tenement-house committee by the governor of the State: Cyrus Edson, Roger Foster, Richard Watson Gilder, Solomon Moses, George B. Post, John P. Schuchman, and W. D'H. Washington.

At the request of this committee, the Department of State sent the following instructions to its consular representatives in Berlin, Brussels, Glasgow, Liverpool, London, and Paris:

(1) What laws or municipal ordinances regulating the construction and use of tenement houses, dwellings for artisans, houses in which three or more families reside, are in force in the city where your office is situated?

(2) What has been the practical effect as regards morals, crimes, health, and otherwise, of the operation of such laws?

(3) In this connection, please state whether there has been any change in the death rate, number of illegitimate children, and of crimes committed in the district?

(4) Have any tenement houses, artisans' dwellings, or dwellings containing three or more families been constructed in your city, or in its vicinity, by the national or city government, or by any philanthropic societies or individuals?

(5) If so please describe them, and state what has been the practical effect as regards morals, crimes, health, and otherwise, of this construction and use—as recited in question 3.

(6) Has any investigation into the condition of the dwellings of the poor been recently made in that locality? If so please send a copy or abstract of the report containing a full copy of any recommendations therein made.

As the reports, in answer to the foregoing interrogatories, were received at the Department, they were immediately mailed to the New York commit-

tee, in order to avoid the delay of copying them, the law being mandatory in regard to the time at which the report of the committee should be submitted to the legislature. A printed copy of the committee's report shows that it was submitted on January 17, 1895.

The following are the reports as received from the consular officers. A number of plans, illustrations, books, etc., accompanying them were not deemed necessary to publish, and have been filed in the Department for reference.

BERLIN.

On my arrival at this post, I found that a request for information had been transmitted by the Deparment of State some month ago, at the request of a legislative committee of the State of New York concerning the conditions of tenement houses in Berlin. The unsettled condition of affairs of this consulate-general prevented an earlier reply.

The six interrogatories submitted in the circular from the Department are not as susceptible of clear, well-authenticated answers as one could wish, in part, because no statistics of very recent date can be reached, and, in part, because of the difficulty of obtaining data from those who might be supposed to know.

On the authority of Herr Oberbürgermeister Zelle I answer the series of questions as follows:

(1) No laws or municipal regulations exist regulating the construction and use of tenement houses in Berlin.

(2) The practical effect of such laws is nil.

(3) Changes in death rate, illegitimate children born, and crimes committed can not be given because there is no separation of statistics in regard to tenement houses.

(4) Neither national nor city government have constructed tenement houses, artisans' dwellings, or dwellings for three or more families. Individuals and societies have.

(5) No statistics are to be had as to such new buildings. Morality and mortality figures are not separated for such structures, nor are there any distinctive "tenement-house districts" in Berlin.

(6) The *Oberbürgermeister* knows of no investigation into the condition of the poor having been recently made in Berlin.

Berlin has done much to improve the condition of the laboring classes as regards their housing; but rents have risen and wages have fallen; capital has embarked on the building of fine new quarters of the city and neglected the tenements, thus failing to provide small buildings, apartments, and small suites, and in many cases, driving the poor still closer together into such buildings as existed before.

The moving of factories that employ many hands toward suburbs which are not inhabited by the rich, and the rise of rents in the city proper, have

forced the poorer classes toward the outskirts. Efforts have been made to provide laborers with small separate houses still further out, but this is not practicable on any large scale for the really poor. They must live near their work, near the city centers where wives and children find customers, patrons, etc., and thus help, near the swarms of homeless men and women who hire sleeping spots by the night or week; near, in fine, the conveniences of a big town, heating, water, gas, etc. Hence it is recognized by the best authorities that the "rent barracks," or *Miethskasernen*, are necessary evils. Laborers, at present, must live close together in order to live on their present wages.

During the years 1886–1890, the number of lodgings attainable by the working class and small official class showed a steady decrease.

Rentals.	Decrease.	
	From—	To—
1 mark to 50 marks (23.8 cents to $11.90)	773	532
51 to 100 marks ($12.14 to $23.80)	12,379	7,511
101 to 150 marks ($24.04 to $35.70)	31,805	23,016
151 to 200 marks ($35 94 to $47.60)	52,320	45,520

But the average rental for all lodgings in Berlin rose during this period from 609 marks to 666 marks ($144.94 to $158.51). This came from the rise in the higher-priced flats and lodgings, namely, those for which more than 200 marks ($47.60) were paid. While wages and salaries fell, these rentals rose in number from 322,175 to 402,610.

In 1890, the population of Berlin was estimated at 1,436,233, of whom 265,101 paid no taxes. The taxes paid by the remainder were proportioned as follows: Persons paying income tax, 120,412; class tax, by families, under 900 marks ($214.20) limit, 622,550; class tax, by families, over 900 marks limit, 428,170. Reduced to heads of families, 318,755 persons paid taxes under the 900-mark limit and 162,540 persons over the 900-mark limit.

The large proportion of families for whom cheap lodgings are absolutely necessary may be seen from the number of families taxed under the 900-mark limit.

But prices of the simplest lodgings bear no relation to average wages and salaries. An average laborer or small official, with wife and child, should have from 1,575 to 1,750 marks ($376.85 to $416.50) annual income to occupy the smallest quarters, reckoning his rent at one-fifth his income.

The average daily wage of an adult man is only 2.40 marks (57 cents), which, at three hundred working days—a very favorable conjunction—gives but 720 marks ($171.36) annually.

Now, the rent of one room and kitchen in the back part of the house, where air is poor and often foul, is reckoned at an average of from 230 to 270 marks ($54.74 to $64.26); rent of a room with two windows or one windowed room and kitchen, 315 to 350 marks ($74.97 to $83.30); rent of

an apartment with a two-windowed front room, one windowed back room, corridor, and kitchen, averages 450 marks ($107.10). A workman, with wife and child, must, therefore, spend about 315 to 350 marks ($74.97 to $83.80) annually on his rent alone, or nearly one-half what he makes as an average wage earner. Hence, it is necessary that wife and children must work to help pay the family's way, and any small floor, bed, or sofa space that can be squeezed out is let to more or less permanent tenants for the night. These sublodgers are called *Schlafburschen*—sleep-boys or sleep lodgers. They are of both sexes and all ages; they comprise the hard working, sober young laborers, steady girls, widows, and widowers, as well as the floating population which deals in and distributes vice, infectious diseases, and punishable crimes.

Efforts have been made to stop this subletting, and the Berlin police, which does not make its hand light, adds much to the misery of the laboring classes by its endeavors to interfere with and regulate such abuses. Sleeping out, or strolling in streets and parks, are offences against the civic rules; "sleeping in" can not be so well attacked for obvious reasons. "Sleep lodgers" harm the family union by introducing jealousies between married people, spoil family privacy, and often corrupt the young. Illegitimate children born to very young girls are the natural result of promiscuous herding together of the sexes.

The tenement house in Berlin is not so easily recognized as in some other cities, owing to the admirable cleansing and police systems; also to the fronts on the street, often imposing, which cover much misery. A common thing is a broad, high, massive front broken by an arched passage which leads to one, two, or three courts. The back courts are often ill kept, narrow, and foul, violating the rules which prescribe so many cubic feet of air to the human being. They are often old buildings, by no means calculated for the human strain to which they are now subjected, and lack conveniences, especially closets. In these houses the worst mortality occurs in garrets; then come the cellars. Garrets are more fatal, perhaps, because of the greater cold or the strain on the old and sickly from having to ascend and descend stairs, or it may be that garrets are slightly cheaper than cellars, which latter are largely rented by dealers in old rags and iron, etc., so that the poorest of the poor people, already weakened by disease and hunger, take to the garrets and are predisposed to greater mortality. Cellars are also occupied by men and women who take charge of the cleaning of the houses. Even in the best houses, the gate keepers or *portiers* live in very badly lighted, badly warmed, and ill-ventilated rooms considerably below the level of the street. In the back parts of tenement houses, these evils are much worse. In 1880, as many as 100,000 people lived in cellars. In that year, attention was drawn to the excessive crowding of the floating population in large single rooms, locally called *Pennen*, which offered places for the beginning of epidemics. The worst of these were done away with then, but there is a constant tendency to their revival in defiance of the police.

Cellar dwellers suffer from eye diseases and rheumatism, owing to the lack of light and the dampness of the walls. As lately as 1893, the number of cellar dwellers was reckoned at 100,000, which is a diminution, in view of the general increase of population, but shows badly still. There is no reason to estimate them at a smaller figure now. They exist in the suburbs, where rents are relatively cheaper, as well as in older quarters. Big houses in the suburbs often have horse and cow stables in the back; the effluvia and drainage from these stables affect the cellars especially.

Under such conditions, the misery of renters of cheap lodgings is enhanced by the fear of landlords that the rent will not be paid. The German laws as to detaining furniture for rent are still unfavorable to the poor, and the latter, therefore, hesitate to buy decent furniture. On the other hand, the landlord is slow to repair tenements, knowing that his rooms will get hard usage and that he can not expect long tenures, while the pressure of demand for any sort of rooms is so great that he need not fear they will be long vacant. Rents are still taxed in Berlin.

Fine apartments in Berlin are a drug on the market, owing to the boom in such property since 1880. Much capital has been lost in that way. The financial and commercial stringency of 1893 and 1894 has done much harm; but the accommodations for the poor have not improved, nor has there been any fall in rents for high-priced apartments (flats) in good neighborhoods.

Property owners in Berlin are heavily taxed, and are much worried by police regulations. They find it safer to take the chances of renting to the well-to-do for long periods than to enter the laborious career of tenement owning. Hence, while Berlin is overbuilt for rich people and those with moderate fixed incomes, it is underbuilt for the laboring classes.

The rise in rents in general may be seen from an estimate made this month in the Vossische Zeitung, which is based on figures for 1893: From 1869 to 1893, 63.6 per cent was raised somewhat, and 30.2 per cent was raised to double or triple; from 1851 to 1893, 7.9 per cent was raised somewhat, 32.3 per cent raised to double or triple, and 57.4 per cent raised to triple or quadruple. The average of all rents rose from 295 marks ($70.21) in 1851, to 391 marks ($91.57) in 1861, and from 407 marks ($96.87) in 1864 to 671 marks ($159.70) in 1893. As to empty dwellings (houses, flats, and lodgings), there were 9,925 unoccupied in 1884, and 6,904 in 1887; but since 1887, they have increased annually at about 5,000, so that, in 1893, there were 26,262 unoccupied, representing the value of 11,000,000 marks ($2,618,000).

In 1893, fully 6 per cent of Berlin dwellings stood empty, and this year the number must be greater. During 1861–1885, while the size of building lots grew gradually smaller, the proportion of people to the lot grew larger in the following ratio: In 1861, 48.3 per cent; 1864, 49.7 per cent; 1867, 51.4 per cent; 1871, 57 per cent; 1875, 58 per cent; 1880, 60.7 per cent; 1885, 66 per cent.

The "sleep lodgers," or floating population of Berlin, increased through factory demands and the depressed condition of many agricultural lines, which forced laborers to the capital, while a growing dislike to the monotony of country life has steadily augmented their numbers during the last decade. In some parts of the city they doubled between 1880 and 1890, during which period they rose from 5.42 per cent of the population to 6.21 per cent. In the northern quarter, called Moabit, at the section called "Wedding," they rose from 2,157 to 5,817. In the Upper Friedrichstadt of the Schöneberg quarter, the rise was from 1,923 to 4,238, and in the Lower Friedrichstadt, from 3,687 to 8,437. In 1880, the "floaters" were 92,189; in 1885, 124,626; and in 1890, 133,359. Only two districts showed a decrease.

I will add a translation from the work by Liszt and Lilienthal on the criminal world of Berlin, dated 1885, which Dr. Heinrich Albrecht characterized in 1891 as still true in many parts of the city.

When you enter such a building you are at once met by a pestilential smell of moist rottenness. Filth rules everywhere, and half-naked children pummel each other on the stairs. Discord and war reign between the neighbors on the same floor. On the slightest pretext, wordy battles occur on the stairs and floors, accompanied by the most filthy expressions and bloody scrimmages. Sticks, broomsticks, and knives play a large part. The women scatter loathsome liquids and filth on each other, men throw each other down stairs, and, in between, children of every age whine and cry. On every occasion of the kind two parties form themselves in the house, and these make war on each other. They only unite when it occurs to the owner or his representative to be so foolish as to attempt to interfere in order to obtain peace. Then they fall in one band upon him and beat the common hated enemy black and blue.

Just the same thick, foul-smelling air, the same filth as are found in the entry and on the stairs occur inside the apartments. Everything lies about "higgledy-piggledy." What few beds and furniture exist are old and rickety. If the apartment consists of several rooms and a kitchen, the rooms are generally rented out to young people, some of whom work, others not, or to prostitutes, often women of the most dangerous variety; the family arranges itself in the kitchen. But if the apartment consists of only one room, which, of course, must serve at one and the same time as sitting room, sleeping room, and kitchen, then everybody is crowded together in one spot. In the single bed, which has generally been made up only once for all, lie husband, wife, and children, just as they happen to get a place; often there are children on the floor in the straw, and among them the "sleep lodger."

Under these conditions, it is not surprising that the men and boys in families of small officials, burghers, shopmen, and laborers desert their homes for the beer shop or restaurant, which are the clubs of Berlin, while the young women take to dance halls, with the usual results of danger to morals.

CHARLES DE KAY,

BERLIN, *November 12, 1894.* *Consul-General.*

BRUSSELS.

The question of supplying comfortable, cheap, and healthful homes for the working classes is not a new one in Brussels. As early as April, 1846, a Mr. Ducpetiaux called the attention of the city council to the bad condition

of the habitations of workingmen in this city, and in defense of his argument for the improvement of localities and houses especially occupied by these classes said:

The too great density of the working population, with the inevitable resulting promiscuity, exercises, in the long run, a fatal influence on public morals. It is almost superfluous to demonstrate that the workingman, fleeing from obscure, unhealthy, and miserable lodgings, and spending the greater part of his time in public resorts or drinking places, could more easily disturb public order than his more fortunate confrére enjoying the possession of an attractive and agreeable home where he finds repose and recruits his strength.

While this question was not allowed to slumber, no very active steps were taken to ameliorate the condition of the poor until 1868, when the subject of demolishing entire quarters, in localities hitherto entirely occupied by workingmen, widening and repairing streets and blind alleys, constructing new streets, ventilating unwholesome habitations, and introducing city water or tanks for the collection of rain water into houses and tenements destitute of every absolute necessity, was taken into consideration. The result has been the organization of several societies receiving aid and support from Government as well as communal and provincial authorities, for the construction, sale, and leasing of cheap houses and lodgings for the working classes, and the promulgation of the law of August 9, 1889, relative to artisans' homes, of which the following is a translation:

ARTICLE 1. There shall be established in each administrative arrondissement one or more committees charged as follows: (1) For the encouragement of building and renting salubrious tenement houses and sale of same to artisans, either for cash payment, or by installments; (2) to carefully investigate the sanitary condition of houses inhabited by the working class, as well as the healthfulness of the localities where they are especially established; (3) to encourage economy and insurance, as well as institutions of credit or of mutual assistance and pensions. These committees will be known as committees of patronage, and will be composed of not less than five nor more than eighteen members, elected for a term of three years—that is, three to ten by the permanent deputation of the provincial council, and two to eight by the Government. They may be subdivided into sections. Each committee and section shall be provided with a secretary nominated by the permanent deputation. The functions of the committees and their relations with the Government, the provincial and communal administrations, and medical commissions are regulated by royal decree, without subjecting them to any interference in their functions concerning matters of hygiene and public health.

ART. 2. The committees of patronage may establish and appropriate rewards for cleanliness and economy, and, for this purpose, they may receive endowments, legacies of real estate, and subsidies from public authorities.

ART. 3. The committees of patronage, or their members will submit, as they may be delegated, either to the communal administrations, provincial authorities, or to the Government, such measures as they may judge expedient. They will address annual reports of their operations to the Minister of Agriculture, Industry, and Public Works, which report will be transmitted to the superior sanitary council, and each commune will receive copy of such passage as may concern it.

ART. 4. Before decreeing an expropriation by circuit in quarters especially inhabited by artisans, the Government will accept the advice of the committee of patronage on the conditions to be imposed on the resale of land included in the expropriation.

ART. 5. The General Savings Bank is authorized to use a part of its disposable funds in loans made in favor of building or buying homes for artisans, after first having requested

advice from the committee of patronage. These loans will be converted into provisional or definite investments by the bank, according to form and duration.

ART. 6. The general board of the savings bank will determine the rate of interest and conditions of said loans, with due reference to the Minister of Finance.

ART. 7. In default of payment at maturity of sums due the bank, realization of the security which should have been furnished will be proceeded with in conformity with articles 4 and 9, of the law of May 5, 1872. The petition will be addressed to the president of the court of first instance. This court will be informed of the garnishment of the mandate, and the sentence will be recorded at the civil record office.

ART. 8. The General Savings Bank is authorized to negotiate mixed insurance on life, having as its object guarantied reimbursement at a given time or at death of the party insured, should he die before the expiration of insurance of agreed loans for the construction or purchase of a house. The general conditions, as well as the rate of insurance, shall be submitted for royal approval. The royal decree will make mention of the mortality list, the rate of interest, and the previous deductions for administration expenses, which shall serve as a basis for the elaboration of the rates of prices.

ART. 9. Provinces, communes, hospitals, and bureaus of benevolence may receive donations and legacies to be used in constructing homes for workingmen.

ART. 10. Exempt from personal tax, and all similar provincial and communal tax, at the rate of renting value, doors, windows, and furniture, houses occupied by workingmen, if they are not owners of any other property than that which they occupy, and if they cultivate for their personal use not more than 45 ares (5,382 square yards) as follows: In communes of less than 30,000 inhabitants, houses at a low cadastral (real estate) income of 102 francs ($19.69); in communes of from 30,000 to 60,000 inhabitants, houses at a low cadastral income of 114 francs ($22); in communes of 60,000 and more inhabitants, houses at a low cadastral income of 132 francs ($25.48). For the application of these stipulations, the communes are rated according to the total population stated in each decennial census, and the cadastral revenue of houses, not yet registered or not registered in distinct parcels, is determined as in matters of land tax.

ART. 11. Societies whose exclusive object is the building, buying, sale, or renting of houses destined as homes for the working classes, are authorized to assume an anonymous or cooperative form without losing their civil character, in submitting to the stipulation, in the first case, of section 4; in the second, of section 6; and in both cases, of section 8, of the law of May 18, 1873, modified by the law of May 22, 1886.

ART. 12. Records and minutes, showing act of founding, modification, and dissolving of societies having in view the transactions enumerated in article 11 are exempt from stamp duty and are recorded gratuitously—that is, if they do not embody any fixed stipulation of the proportional law of registration. Extracts, copies, or forwarding records and minutes are equally free from stamp duty. No fee or emolument can be exacted by the record office.

ART. 13. Exempt from stamp duty and the formality of recording, are all acts under private signature not coming under the terms of preceding stipulations, and all recording exclusively concerning the general administration, as well as powers of attorney given by members for their relations with the society.

ART. 14. Sales and adjudications to the societies herein mentioned, or to public administrations of real estate destined to serve as homes for the working classes, are assessed only 2.70 francs (52 cents) per cent by the registry law, and 65 centimes (13 cents) per cent for the right of transcribing mortgage. The same allowance is applicable to sales and adjudications to workingmen of real estate destined to serve them as habitations or where they intend erecting a home, provided that the land improved with building, or unimproved, does not exceed 25 ares (299 square yards). The qualifications of the workingman and object of acquisition must be established by a certificate from the committee of patronage, which will remain attached to the document. If possible, the construction of the home should be completed within one year from the date of execution of the deed.

ART. 15. The deed of sale or adjudication mentioned in the preceding article is recorded and copied in debit. The debtor may pay off in five annual terms the amount to be paid on the deeds executed by him in the course of each year; the first will fall due on the 1st of March of the following year. The sums not paid by a society at the time it dissolves will be immediately exigible. The seller remains responsible for amounts due by the purchaser.

ART. 16. Certificates of loans or opening of credit in favor of societies above-mentioned, made with the intention of building or buying improved real estate destined as homes for workingmen, are recorded at a fee of 30 centimes (10 cents) per cent if they are contracted for a year or more, or at a fee of 65 centimes (13 cents) per cent if only for a year, even in cases where a guaranty of one-third is furnished. The receipt for amounts loaned is fixed at a fee of 30 centimes (16 cents) per cent. These stipulations are applicable to loans, opening of credit for the benefit of persons belonging to the working classes, but under the following conditions: (1) The funds must be used exclusively in the acquisition or in the building of a house serving, or to serve, as a home for the buyer, or for the purchase of land for the same purpose; (2) in the last case, the nouse must be built within eighteen months from date of acquisition of the land; (3) a certificate from the committee of patronage attesting to the object of the transaction and to the qualifications of the borrower must be annexed to the deed. In the certificates of loans and opening of credit must be stated the use to which the amounts are to be put, and the case occurring, the qualifications of the borrower and of his credit account. The acknowledgment of amounts paid in by the creditor to the credit account are stamped and recorded gratuitously.

ART. 17. In cases coming under paragraph 2 of article 14, and of 2 of article 16, if the house is not erected within the fixed time, the ordinary fee of transfer of property, and copy of transfer will be demanded, for loans and opening of credit and the payment of amounts, or of supplement, shall be paid within two months of the expiration of the prescribed time. The action of the treasury (or record office) will not be prescribed until after two years from the date of the expiration of the fixed time.

ART. 18. The stamp duty on bonds and obligations issued by the societies described in article 11 is fixed as follows: At 5 centimes (1 cent) for those of 50 francs ($9.65) and below; 10 centimes (2 cents) for those of 50 to 100 francs ($9.65 to $19.30); 20 centimes (4 cents) for those of 100 to 200 francs ($19.30 to $38.60); 10 centimes (2 cents) per 100 francs ($19.30), without fraction, for those above 200 to 400 francs ($38.60 to $77.20).

ART. 19. All deeds of the committee of patronage, including certificates delivered to workingmen, but not including deeds of loan and opening of credit accounts, are exempt from stamp duty and recording fee.

ART. 20. Article 6, of the law of July 5, 1871, is repealed. However, houses built previous to January 1, 1889, by anonymous societies, whose object is buying, selling, and renting houses for working classes, will continue to enjoy the benefits of exemptions determined by articles 1 and 2 of the law of March 28, 1828. The law of August 12, 1862, relative to fees for recording and copying mortgages, and the law of June 20, 1867, relative to the anonymous character of societies for homes for the working classes, are repealed.

ART. 21. Personal taxes, as regards the last two quarters of 1889, which included provincial and communal taxes, will not be collected from such taxpayers who, in consequence of article 10, cease to be debtors. To those who may have paid taxes, the amount will be restored to them. The assessment of taxes will be considered as not having been made, and it will not be counted in the making out of the electoral tax. The restitution will be made officially.

The following law, applying to the modifications of article 10 of the law of August 9, 1889, relative to homes for workingmen and the laws of June 28, 1822, and July 30, 1889, on personal tax, was promulgated July18, 1893:

ARTICLE 1. Article 10 of the law of August 9, 1889, is modified as follows: Are exempt from personal taxation according to the renting value, doors, windows, and furniture, and all

similar provincial and communal taxes. Young and old workingmen incapable of performing labor, who are not owners of any property other than that which they occupy and that which they cultivate, occupying it either as owner or as tenant of lessor not living on the premises, a house giving a cadastral revenue not exceeding 72 francs ($13.89) in communes of less than 3,000 inhabitants, 96 francs ($18.52) in communes of 3,000 to 20,000 inhabitants, 120 francs ($23.16) in communes of 20,000 to 40,000 inhabitants, 144 francs ($27.79) in communes of 40,000 to 100,000 inhabitants, and 171 francs ($33) in communes of 100,000 or more inhabitants. For the application of these stipulations, the communes are classed according to the total population stated at each decennial census, and the revenue from houses not yet cadastral or not cadastral in distinct subdivision, is determined as in matters of land tax. When, however, an agglomeration extends over several communes, these communes or their agglomerate parts may, when the taxes of the cadastral revenue gives right to the exemption, be ranked by royal decree in the category to which belongs the commune having most inhabitants. The exemption is only accorded to (1) workingmen who rent or lease part of their house to one or more undertenants for drinking shop, or other small commerce; (2) workingmen who cultivate for themselves from 50 ares (5,980 square yards) to 100 ares (11,960 square yards) according, as among the portions, other than the garden, there are portions where the cadastral income does not exceed 50 francs per hectare ($9.65 per 11,960 square yards).

ART. 2. Revokes articles 10 and 17 of the law of June 28, 1822, on personal taxation; also the last paragraph of article 1 of the law of July 30, 1889.

ART. 3. In matters of direct taxes and quitrent on mines, protest against overtaxation must be made within six months from the date of delivery of the official notice, otherwise the claim will be forfeited. This delay is, however, extended until the 31st of October of the second year of the application of the assessment of inferred taxes resulting from useless repetition or errors attributable to the officers of direct taxes.

CRIMES AND ARRESTS.

No statistics bearing on the practical effect as regards morals and crimes, since the operation of the foregoing law, are obtainable.

It is the general opinion of those interested in this movement that morals have improved and crimes decreased since the various societies have been interested in improving habitations exclusively destined for the working classes.

Following are tabulated statements showing the total number of arrests made in Brussels for crimes from 1874 to 1892, and the total number of deaths from all causes in Brussels and suburbs compared with the estimated population during the years from 1865 to 1892, inclusive; also, statement of births from 1865 to 1892, inclusive.

Arrests made at Brussels for crimes from 1874 to 1892.

Year.	Arrests.	Year.	Arrests.
1874	8,273	1884	13,811
1875	7,298	1885	16,285
1876	8,921	1886	8,857
1877	10,095	1887	18,380
1878	10,069	1888	20,223
1879	8,956	1889	23,575
1880	12,287	1890	23,797
1881	8,510	1891	23,752
1882	17,007	1892	26,694
1883	17,749		

The population of Brussels, not including suburbs, according to the census of 1866, was 157,905; 1876, 161,816; 1880, 162,498; 1890, 176,138.

Deaths from all causes at Brussels and suburbs, compared with the estimated population.

Year.	Deaths.	Census.	Population.
1865	8,782	1856	235,955
1870	9,187	1866	281,498
1875	9,727		
1880	9,704	1880	394,920
1885	9,651		
1888	9,885		
1889	9,286		
1890	10,301	1890	482,158
1891	10,593		
1892	10,185		

Number of births at Brussels and suburbs during the years 1865–1892.

Year.	Legitimate.	Illegitimate.	Total.	Stillborn.		
				Legitimate.	Illegitimate.	Total.
1865	8,493	1,963	10,456	451	131	572
1870	9,455	2,384	11,839	537	213	750
1875	10,933	2,675	13,608	535	193	728
1880	10,757	2,738	13,495	566	224	790
1885	10,500	2,802	13,302	481	168	649
1888	10,548	2,850	13,398	432	180	612
1889	10,750	2,788	13,538	557	186	743
1890	10,148	2,692	12,840	498	168	666
1891	10,254	2,660	12,914	510	220	730
1892	10,214	2,547	12,761	505	182	687

SOCIETIES FOR BUILDING DWELLINGS FOR WORKINGMEN.

According to a signed agreement executed at Brussels March 1, 1868, an anonymous society was established for the purpose of providing within the limits of Brussels and its suburbs cheap dwellings for workingmen.

The statutes declare that the objects of the society are: (1) The construction, sale, and leasing of cheap habitations for the working classes, and for such persons as desire to be assimilated with them; (2) acquisition and leasing of land appropriate for the construction of said houses and reselling or leasing of the land; (3) loans on mortgage to facilitate the construction and acquisition of said houses; and (4) all enterprises and transactions in general connected with the object of the society.

The amount of capital is fixed at 5,000,000 francs ($965,000), represented by ten thousand shares at 500 francs ($96.50) per share. Transactions are prohibited until one thousand shares shall have been subscribed.

The houses constructed by the society are classed in two categories—(1) group of four houses, each of which is intended for a single family, and each habitation is provided with a garden; (2) houses having a common

entrance, but divided into several apartments, and destined to accommodate a number of families. The first-mentioned houses are built on two different plans, one of which is for a house covering 23 square meters (247.6 square feet), and disposed as follows: A small kitchen on ground floor, two bedrooms on first story, and attic; only one family may at one time occupy such house. Houses of the second plan cover 28 square meters (301 square feet), and are disposed as follows: Kitchen and one small room on ground floor, two bedrooms on first story, attic, and attic room. Attached to each house is garden space measuring 100 square meters. These houses are intended for one or more families. The apartments described in the second category are composed of two bedrooms and a kitchen, with the privilege of renting an attic room.

WORKINGMEN'S SUBURBAN DWELLINGS.

Since its organization, the society has built six groups of houses, known as *cités*, in Brussels and its suburbs, as follows:

(1) Group of fifty-two houses erected in the center of the rural section of Anderlecht from plan of a house covering 28 square meters (301 square feet). Each habitation is occupied by a single family.

(2) *Cité* of Molenbeek-Saint-Jean, a group of eighty-six houses, sixty of which are constructed on a plan covering 22 square meters (237 square feet); four on a plan covering 28 square meters, and twenty-two from various plans. These houses collectively are inhabited by one hundred and ten families.

(3) *Cité* of Forest, a group of sixty-eight houses, twelve of which are on the 22-square meter (237 square feet) plan. Each house is inhabited by a single family.

(4) *Cité* of Schaerbeek, a group of forty houses built in the rural section of the suburb, twenty-eight of which are constructed on the 22-square meter plan and twelve on the 28-square meter plan. Each house is inhabited by a single family.

(5) *Cité*, a group of twenty-four houses on Chaussee Louvain (Brussels), divided into two hundred and twenty-six apartments, each exclusively for the use of a single family.

(6) Group of houses on the rue de Nord, divided into thirty apartments for the same number of families.

BUILDING PRICES.

The cost of building houses covering 22 square meters (237 square feet), not including land, is 2,500 francs ($482.50), to which must be added an additional 600 francs ($115.80) for cistern, pump, sewerage, chimneys, sidewalks, inclosures, etc. The average price of such a house, including land, is about 4,830 francs ($932.19). The average price of a house, land included, on a plan of 28 square meters (301 square feet), is 4,930 francs ($951.49).

RENTING VALUE.

Renting rates of houses of first category vary from 55 to 75 centimes (11 to 15 cents) per day; for apartments from 55 to 85 centimes (11 to 16 cents) per day. The average rate for any house built by the society is 60 centimes (12 cents) per day.

Rents are usually paid with great regularity. Tenants desiring to become owners of the premises occupied by them, are permitted to do so by means of a fixed monthly installment extending over a period of twenty-five years.

TAXES.

The average amount of taxes per house or per apartment is from 25 to 33 francs ($4.82 to $6.36) per year, distributed as follows: Government taxes, 12.73 francs ($2.45); provincial taxes, 2.07 francs (42 cents); communal taxes, 10.53 francs ($2.03).

CONDITION OF DWELLINGS OF THE POOR.

The last official investigation into the condition of the dwellings of the poor was made in 1890. In the report presented to the committee of patronage at Brussels, it is stated that from 1874, the date of the creation of the permanent sanitary commission, to 1878, the general mortality steadily decreased to 25.7 per 1,000 inhabitants. The decrease has continued, as will be seen by the following:

General mortality.—1879–1883, 25.3 per 1,000; 1884–1888, 23.9; 1889–90, 21.9.

Infectious diseases.—1879–1883, 1.58 per 1,000; 1884–1888, 1.59; 1889–90, 1.31.

It is also stated that, notwithstanding the admirable work done by the city of Brussels to improve the sanitary conditions, the question of proper lodgings for workingmen is still such as to demand the greatest solicitude of the communal authorities. It has been stated that 491 workingmen's families occupy an entire house, 1,371 families each occupy three or more rooms, 8,058 families two rooms or more, 6,978 families one room or more, 2,186 families one attic room, and 200 families one cellar. Among the 9,364 families living in a single room, there are 1,511 families numbering more than five persons.

The volume of air in the largest room inhabited by the working classes—entire family in one room—is 369 cubic meters (13,059 cubic feet); the volume of air in the smallest room—entire family living in one room—8 cubic meters (283 cubic feet).

In the 19,284 workingmen's households, there were found 17,284 who kept their rooms in a tidy state, and 1,658 who kept their rooms untidy, showing about 90 per cent where cleanliness prevailed. Nine rooms were discovered impossible to ventilate, and nineteen where the light of day rarely or never penetrated.

There are 2,895 families in this city unable to rent more than one chamber, where boys and girls sleep in the same room. In 406 families, boys and girls sleep in the same bed.

The arrangement of necessary conveniences in houses inhabited by the working classes is considered good, if not entirely adequate. There are 51 houses having no convenience, and 1,757 having only one for every fifteen inmates. The number of houses supplied with city water is 3,054 out of 4,601; number of houses having cisterns or reservoirs for collecting rain water, 2,954; number of houses without yard or area, 823. Existing yards average about 55 feet 2 inches. About one-fifth of these habitations have no yards, area, or court. From a sanitary point of view, it is inadmissible that a family consisting of six persons—that is, father, mother, and four children—which is the average number here of children per family, can live, prepare their food, eat their meals, do washing, and sleep in one room, especially when it is considered that, generally, the air capacity of the average room is from 30 to 40 cubic meters (1,059 to 1,412 cubic feet).

In consequence of the exorbitant increase in price of the necessaries of life and the low rate of wages paid, the average workingman at Brussels is more or less badly lodged. Not all, however, as may be observed by the following descriptions of several modern tenements:

Tenement, rue des Fabriques.—Capacity, 200 families or 800 working people. The locality is kept very clean. The janitor is exceedingly careful, and results of his vigilance are everywhere apparent. The tenements are solidly built. The interior arrangements are comfortable, and, excepting in rooms facing on the court, the ventilation is good. The ground floor is divided into small apartments and consist each of four rooms and a cellar, and are intended for a store, and rent at 50 to 60 francs ($9.65 to $11.58) per month, or 600 to 720 francs ($115.80 to $138.96) per year, without taxes. The interior is so arranged that each family has two rooms, measuring, respectively, 5 by 3 by 3=45 cubic meters (1,589 cubic feet), and 4 by 3 by 3=36 cubic meters (1,277 cubic feet). This space is apparently sufficient for a small family. The average rents, ground floor, per month, are: Front room, 20 francs ($3.86); back room, 18 francs ($3.47). The first-story rooms rent at the same rates as those on the ground floor. The rooms are, however, more commodious, as space is economized in passageways. Other portions of the tenement rent as follows: Second-story front room, per month, 18 francs ($3.47); back room, 16 francs ($3.08); third-story front room, 17 francs ($3.28); back room, 15 francs ($2.89); fourth-story front room, 16 francs ($3.08); back room, 14 francs ($2.70); fifth-story front room, 14 francs ($2.70); back room, 13 francs ($2.50).

Tenement, rue aux Laines.—This tenement is more advantageously situated, from a sanitary point of view, and, possessing superior interior comforts, the apartments and small shops bring a higher monthly rental than the previously described tenement. The apartments consist of two rooms, a kitchen, and a cellar, and are principally inhabited by master workmen

earning good wages, and clerks at small salaries. The average monthly rental is as follows: Ground floor, per month, 40 francs ($7.72); entresol (low story between ground floor and first story), 25 francs ($4.82); first story, 32 francs ($6.17); second story, 25 francs ($4.82); third story, 19 francs ($3.66).

ANONYMOUS SOCIETIES FOR THE CONSTRUCTION OF WORKINGMEN'S HOUSES IN BRUSSELS.

1.—Société anonyme of workingmen's houses in Brussels.

Details.	1884.	1886.	1891.	1892.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*
Capital (stocks)	411,186.50	411,186.50	411,186.50	411,186.50
Bonds or loans	.....	.....	22,607.44	21,977.10
First expenditures:				
Land	93,651.12	94,423.12	94,421.96	94,421.96
Buildings	357,968.87	360,506.82	364,672.53	364,672.83
Annual expenditures:				
Administration	1,324.55	1,339.99	1,349.45	1,314.52
Repairs	2,210.81	2,794.83	2,412.11	3,597.32
Other expenses	2,359.42	2,380.65	3,909.60	2,856.78
Total	5,894.78	6,515.47	7,671.16	7,768.62
Receipts:				
Rents	16,785.59	17,244.74	15,728.53	15,874.25
Other	.....	.....	76.04	34.35
Total	16,785.59	17,244.74	15,804.57	15,908.60
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Dividends	2½	2	2	2
Construction:	*Number.*	*Number.*	*Number.*	*Number.*
Houses built	271	271	280	280
Houses let	240	240	247	254
Houses unfinished	.....	.....	23	26
Houses building	.....	2	.....	.....
Apartments	526	300	521	521
Rooms	1,485	1,485	1,514	1,514
Inhabitants:				
Men	349	.....	386	.....
Women	397	.....	415	.....
Children	1,323	.....	1,317	.....
Total	2,069	.....	2,118	.....
Families:				
With children	307	.....	356	.....
Without children	23	.....	55	.....
Single people	86	.....	60	.....
Deaths per year:				
Men	10	.....	9	.....
Women	.....	.....	5	.....
Children	15	.....	15	.....
Total	25	.....	29	.....

2.—Société Anonyme l' Immobilière Bruxelloise.

Details.	1884.	1891.	1892.
	Dollars.	*Dollars.*	*Dollars.*
Capital (stocks)	965,000.00	965,000.00	965,000.00
Bonds or loans	.....	69,208.06	67,152.40
First expenditures:			
Land	55,732.52	57,662.52	57,662.52
Buildings	217,595.53	217,595.53	217,595.53
Annual expenditures:			
Repairs	1,829.25	5,217.56	4,165.13
Other expenses	9,307.23	7,477.59	6,654.44
Total	11,136.48	12,695.15	10,819.57
Receipts:			
Rents	18,986.76	18,268.80	18,655.18
Other	.....	1,031.58	.....
Total	18,986.76	19,300.38	18,655.18
	Per cent.	*Per cent.*	*Per cent.*
Dividends	4	3	3
Construction:	*Number.*	*Number.*	*Number.*
Houses built	45	46	46
Houses let	45	46	46
Houses unfinished	.....	.....	.....
Houses building	.....	.....	.....
Apartments	363	402	402
Rooms	766	812	812
Inhabitants:			
Men	326	344	339
Women	368	395	387
Children	1,055	1,084	1,087
Total	1,749	1,823	1,813
Families:			
With children	317	318	322
Without children	36	21	17
Single persons	7	12	11
Deaths per year:			
Men	6	2	1
Women	10	3	2
Children	20	16	12
Total	36	21	15

MORE DWELLINGS NEEDED.

Notwithstanding the fact that various model tenements have been constructed here in recent years, there are still some 10,000 families in this city badly lodged. The question of building small, detached homes in the country for workingmen was not only discussed but put into actual practice. Several such houses were constructed, but the result was such as to cause the promoters to completely abandon the idea of building homes for workingmen outside of the limits of the city and its suburbs. One of the most important causes operating against the success of the enterprise was that, in time of need, workingmen living in the country could not apply to charitable associations or hospitals in Brussels for assistance. As the average workingman here is very poor and frequently incapacitated from work, he is com-

pelled to solicit aid from these institutions, and, consequently, hesitates before risking the danger of removal from easy access to the public charities.

The following is a translation of a recapitulation of a report made in 1890 on workingmen's habitations, presented to the committee of patronage of the city of Brussels:

Houses and inhabitants.—In the city of Brussels there are six divisions of police, divided into ninety-six series. There are 19,594 dwellings, 168,145 inhabitants, and 4,601 workingmen's dwellings—about 23.48 per cent of the total number—and 19,284 workingmen's families. The number of unmarried working people living alone in rooms is 3,966; male married foreign artisans working at Brussels and living in a division far from their families, 267.

Lodgings.—There are 105 tenement houses at Brussels, supplied with necessary means for lighting, heating, and ventilating.

Drinking saloons.—There are 3,436 drinking saloons in the city proper—about 2.05 to every 100 inhabitants, and 17.54 to every 100 workingmen's families. The number of houses serving as drinking saloons, against those not used for this business, is as 21.26 is to 100.

Rent, wages, and income.—The average monthly rent for one room is 11.68 francs ($2.25). The average daily wage is 3.14 francs (60 cents); the majority of families have no income other than wages. The average daily income of a few families is 84 centimes (17 cents).

Aid.—Out of 19,284 families of workingmen, 10,462 receive assistance from public benevolent associations, leaving 8,822 entirely self-supporting.

Savings banks.—There are 139 savings banks in the city.

Houses and apartments.—The number of artisans' families occupying an entire house is 491; occupying three rooms, 1,371; occupying two rooms, 8,058; occupying one room, 6,978; occupying an attic room, 2,186; occupying a cellar, 200; total, 19,284. About 2.54 per cent occupy an entire house, 7.11 per cent three rooms or more, 41.81 per cent two rooms, 36.18 per cent only one room, 11.36 per cent one attic room, and 1.03 per cent cellars.

Out of the 9,364 families living in single rooms, there are 1,511 consisting of more than five members. The volume of air in the largest room occupied by an entire family is 369 cubic meters (13,032 cubic feet); volume of air in the smallest room, 8 cubic meters (283 cubic feet). The majority of tenement rooms, inhabited by an entire family, are embraced by these two extreme types.

Order and cleanliness.—Out of 19,284 households, there were found 17,626 who kept their rooms clean, and 1,658 who kept their rooms unclean, or out of each 100 families 91.4 clean and 8.6 unclean, or, in round numbers, 90 per cent of the families kept their rooms in a tidy condition.

Ventilation.—There are 9 rooms impossible of ventilation, and 19 where the light of day rarely, if ever, penetrates.

Crowding.—There are 2,895 families occupying but one chamber, where boys and girls are compelled to sleep in the same room, and in 406 of these families they sleep in the same bed.

Laundries and drying rooms.—The place serving as laundry and drying room is usually the living room, or the attic, for which a small sum is paid.

Privies.—These are generally reported in good condition. There are 51 tenement houses unprovided with privies, and 1,757 houses having but one to each 15 persons, or about 38.18 per cent of these habitations.

Water.—Three thousand and fifty-four out of 4,601 are provided with city water, and 2,954 have cisterns or tanks for collecting rain water.

Yards.—There are 823 habitations for workingmen having no yard or area. The existing yards have an average dimension of 16.83 square meters (181 square feet).

Small gardens.—Out of 4,601 dwellings, 195 only have small gardens, the average size of which is 27.11 square meters (292 square feet).

Pavement of alleys.—The paving of 60 alleys was found in worse condition than that of the neighboring street.

Stairways.—The number of old, dangerous, dirty, and dark stairways amount to 326.

Authorized deposit of refuse or rubbish.—There are 54 authorized places in the various dwellings for depositing refuse.

Herewith attached are fourteen plans of habitations for workingmen in the city of Brussels and suburbs.*

GEO. W. ROOSEVELT,

BRUSSELS, *September 6, 1894.* *Consul.*

GLASGOW.

I have the honor to report as follows upon the subject of tenement houses and dwellings for workingmen in Glasgow:

LAWS AND MUNICIPAL ORDINANCES REGULATING CONSTRUCTION AND USE.

Dean of Guild Court.—The care and control, as to construction and use of tenement and dwelling houses in Glasgow, as well as all other buildings, are vested in the Dean of Guild Court, an institution peculiar to this city and of ancient origin.

The dean of guild is the head of the Merchants' House of Glasgow. The Merchants' House is an elective corporation connected with the municipality. It is also a political association in so far as it takes cognizance of questions affecting the social, commercial, and other interests of the community. It is also one of the largest and most important of the charitable institutions of the city.

The actual date of the inception of the Merchants' House is unknown. In 1605, it obtained a chartered or defined constitution, called the "letter of guildry," which was subsequently ratified by an act of the Scottish Parliament in 1672. This forms the chartered foundation of its constitution and privileges. This constitution was amended by the burgh reform act in 1833, and also by other acts of the British Parliament to meet the altered circumstances and conditions of the times.

The members were originally all merchants and traders, and are now chiefly composed of merchants and manufacturers, though among them are bankers, brokers, and men of various pursuits. The members are now admitted upon a vote of the directors and the payment of 10 guineas ($51.09) entrance fee. Thirty-six directors are elected annually and one dean of guild. They are elected by the members of the house. Usually, the twenty-four directors who have held office the least number of years are reelected, and of the twelve remaining, the six longest in office retire, making way for new men. But this is a custom, rather than a rule, of the house.

* Filed in the Bureau of Statistics, Department of State.

The dean of guild is eligible for reelection once, and is generally retained for two years, but can not hold the office more than two consecutive years. His office is inferior in dignity and importance only to that of the lord provost (mayor), and, by virtue of his office, he is a member of the town council of Glasgow and sits upon the right hand of the provost.

He is the official head of the Dean of Guild Court. This court is composed of four merchants, of whom the dean of guild holding office the year preceding shall be one, and four craftsmen. These are now called syners of court. Those of the merchant rank are selected by the dean of guild and the directors of the Merchants' House, and those of the craft rank (artisans) by the deacon convener (the head of the craftsmen) and deacons (directors) of crafts and their assistants.

The craftsmen are artisans of various trades in the city and have an institution something like the Merchants' House, of long standing, and the the deacon convener, or presiding officer of the same, is also, by virtue of his office, a member of the town council and sits on the left hand of the provost.

It will be seen that this Dean of Guild Court is composed of business men of character and special experience, and constitute a body well suited to regulate and control the building of tenement and other dwelling houses, and to make sanitary rules and regulations relative to the use and occupation of them.

These buildings and their control and use are now governed by the Glasgow building act of 1892 (55 and 56 Vict., chapter 239), and the Glasgow police acts 1886 and 1891 (29 and 30 Vict., chapter 273), and by-laws made under said acts and by virtue of them.

BUILDING RULES AND REGULATIONS.

When any building is proposed to be erected or altered, application must be made to the dean of guild for a permit or warrant. This application must be accompanied by plans and sections, showing boundaries of grounds and names of adjoining owners; also, detailed plans, showing stairs, iron or steel beams, pillars, walls containing chimney flues, and principal timbers. The position and size of all drains, pipes, traps, and cesspools must be distinctly shown, and dimensions of all joistings, beams, and roof timbers marked in figures.

No street shall be formed of a width less than the maximum height from the level of the buildings constructed upon it. Lanes must not be less than 15 feet wide, and must communicate with another street or lane. If one end fails to so communicate, that end for 20 feet must be 20 feet in width. Each street must be properly drained with a sewer of sufficient capacity to drain the street and the buildings erected thereon, and the grade and level such that the surface water will all be carried off in the gutters to the sewer under the street.

There are no cellars in Glasgow, and the site of every building must be prepared by removing all animal and vegetable matter, and, unless such site

be gravel, sand, or other solid bed, it is to be covered with a layer of concrete not less than 6 inches thick, and smoothed on the upper surface. All filling up of the surface must be done with hard brick, dry stone shivers, or or other innocuous material.

All outer walls must be of brick, stone, or other noncombustible material, and placed upon firm foundations.

In the process of underbuilding, if stones are used, pillars of cube stone the full thickness of the walls shall be built at intervals of not more than 18 inches apart; space between pillars to be built of large rubble stones, and both pillars and intervening building shall be wedged tight against the under side of the wall with iron or other equally suitable wedges. If bricks are used they must be built solidly to the full thickness of the wall in lengths of not more than 3 feet at a time and bedded in cement and wedged as aforesaid.

Every wall shall be properly bonded and solidly put together with mortar or cement; and all return and partition walls of brick or stone shall be properly bonded to the adjoining walls. The minimum dimensions of external walls shall be as follows:

(1) If built of stone or concrete—one story in height, 16 inches; two stories, 18 inches; three stories, 20 inches; four stories, 24 inches. In buildings above four stories, the thickness of each of the first two stories shall be increased 4 inches for each story.

(2) If built of brick—one story in height, 9 inches; two stories—first story, 14 inches and second story 9 inches; three stories—first story, 18 inches; second story, 14 inches; third story, 14 inches; four stories—first story, 22 inches; second story, 18 inches; third story, 14 inches; fourth story, 14 inches. In buildings above four stories, the thickness of the four upper stories shall be as hereinbefore stated, and the thickness of the lower stories shall be increased by 4½ inches for each additional story. The walls of no story shall be less than 14 inches thick; the walls of newel stairs 4½ inches thick, and of hanging stairs 9 inches or thicker, if required.

For the purposes of the law, a story is measured as 14 feet in height from center of floor joists to center of ceiling joists. If stories are of greater height, walls must be proportionately increased in thickness. Walls exceeding 14 inches in thickness longer than 30 feet must be increased in thickness, or strengthened by pilasters, buttresses, or counterforts, at intervals of 30 feet apart, and at 15 feet when any wall is a bearing wall for a floor or roof with a space of more than 30 feet.

All walls resting on the ground must have a damp course throughout their whole thickness of durable material impervious to moisture. When the lowest story is below the surface of the ground, precaution shall be taken by double walls or otherwise to effectually prevent damp from penetrating the wall.

Cement used must be of the best quality. Portland cement must be capable of bearing a tensile strain of 350 pounds per square inch at the end

of seven days, when rested after an immersion in water in the usual way. Roman cement must, in the same way, bear a tensile strain of 200 pounds per square inch; hydraulic lime, 60 pounds per square inch, same test.

Mortar must be mixed with clean, sharp sand or grit, or with burnt clay or firestone, or hard-burnt ashes, commonly called clinkers or danders, all free from rubbish, and without dust or earthy matter, and ground to the consistency of fine sand in the proportion of one of cement or lime to two of the other material. Mortar from quicklime must be composed of fresh burnt lime, carefully slaked and exposed to the air until completely hydrated, and then mixed as above in the proportion of one of lime to three of the other material. Concrete must be composed of cement or hydraulic lime well mixed in proper proportions with sand and clean gravel, hard-burned brick ballast, whinstone, or granite shivers, free from earthy matter, and broken so small as to pass through a 2-inch ring, in proportion of one of cement to five or one of hydraulic lime to three of the other material.

Ends of wooden beams are to be protected by cast-iron beam boxes with solid back or a fire-clay shoe, or by solid building 4½ inches thick. Spaces between ends of two beams shall be at least 4½ inches, and filled up with solid building. Minute provisions are laid down as to placing and dimensions of beams, scantling, and joists.

Dwelling-house floors must be constructed to carry as a safe load 100 pounds to the square foot. Roofs must be made of incombustible material and carry safely a load of 50 pounds per square foot, exclusive of the materials of the roof itself. All rough timbers used must be of new wood. The common stairs within a tenement, if not in juxtaposition to and lighted from an external wall, must have a wellhole of the following dimensions: Two stories, 18 square feet; three stories, 23 square feet; four stories, 30 square feet, and in higher tenements a proportionate increase. Such common stairs shall be lighted from a cupola or skylight of a superficial area equal to five times the area of the wellhole, and shall be provided with sufficient means of ventilation at or near the roof. Common stairs must be effectually swept and kept clean.

No tenement shall be built, or the number of occupants therein increased so that more than sixteen separate dwelling houses or other separate occupancies therein shall enter from the common stair or passage within the tenement, or more than twenty-four separate dwellings or occupancies enter from common stair or balcony outside the tenement, or more than four separate dwellings enter from one common stair landing.

Chimney cans must be properly secured, and every chimney head, rising above any wall fronting or abutting on any street or court, and containing chimney cans, shall be surmounted by an iron railing of height and strength sufficient for the protection of passers-by from the falling of such cans. Minute directions are prescribed for the building of chimneys. No opening can be made into a chimney for any purpose unless said opening is 9 inches from any timber or combustible substance. No timber of any kind or for

any purpose can be placed in a building nearer than 4½ inches to any chimney opening, smoke flue, or pipe conveying any product of combustion, or nearer than 7 inches to the back hearth of the chimney. Minute directions are given for the building of hearths and fireplaces and as to the setting and use of stoves.

The street-floor level of all dwelling houses, except those connected with shops, must be at least 12 inches above the mean level of the adjoining court or street.

Special provision must be made for the ventilation of all sleeping apartments that contain no fireplace; and, when it is practicable, the windows of all sleeping rooms shall be made vertical, and hinged or fitted with running sashes; above the ground floor, constructed so that the outside of the same can be cleansed from the inside of the apartment.

All buildings must be properly drained. The drains are to be composed of sound vitrified fire clay or stoneware pipes, laid on solid, hard ground or bed of concrete 6 inches thick and bedded, laid in straight lines with oblique junctions, both horizontal and vertical in the direction of the floor; top of drain, unless of cast iron, to be 6 inches below level of lowest floor.

Between the building and the sewer, at a distance of 6 feet from the building, there shall be inserted a ventilating trap of the same diameter as the drain and so constructed as to cut off all direct communication of the sewer gas from the sewer to the farther side of the trap, and with an air inlet on the level of the street or court. No drain shall be built or cemented into any wall, nor shall any drain pass under the floor of a dwelling house where any other mode is practicable. Any drain, except cast iron, conducted through or under a dwelling house, shall be completely surmounted by concrete 6 inches thick. No pipe conveying hot water above 150° F. shall be connected with a common sewer except by special permit.

No dwelling house shall be constructed or altered so that, exclusive of any lobbies, closets, presses, and recesses, it shall be less than the following dimensions: One apartment, 1,000 cubic feet; two apartments, 1,600 cubic feet; three apartments, 2,400 cubic feet. A recess, under the law, means any recess, which, being in a room of a dwelling house, and having no separate window, is not open from front to back, from floor to ceiling, and from side to side, and free of fixtures.

Every sleeping apartment on the ground floor shall be at least 9 feet 6 inches in height from floor to ceiling, and every other sleeping apartment, except attic rooms, shall be at least 9 feet in height from floor to ceiling; and, in an attic story, shall be at least 8 feet from floor to ceiling throughout not less than one-half of the area of the room. There shall not be more than one habitable story in any roof.

It shall not be lawful in any dwelling house for any person to make an inclosed bed or bed recess not open in front for three-fourths of its length, and from floor to ceiling; nor shall any dwelling house, which contains any

inclosed bed or bed recess, be altered so as to increase the number of houses or occupiers, unless all such inclosed beds are opened up as aforesaid.

No apartment can be let or used for sleeping, unless at least one-third of its height is above the level of the adjoining street or court, and unless there be in front of at least one-third of every window in such apartment, including street or courts, a free space equal to at least three-fourths of the height of the wall in which it is placed, measuring such space in a straight line from and at right angles to the plane of the window, and measuring such wall from the floor of the apartment to where the roof of the building rests upon the wall. If there are two windows in a sleeping apartment, free space for one is sufficient. There must be in this free space no obstruction or impediment from overhanging balconies (except in buildings heretofore constructed, self-contained dwelling houses, and to back windows in a tenement forming the corners of two streets, or in tenements adjoining and in line with such corner tenements, provided there is left at one gable of each such corner tenement a through space or opening from the street to the back ground 10 feet wide and open from the height of 15 feet upward). There must be one window in every sleeping apartment, and so constructed that one-third of it may be easily opened, and the sash of the window must not be short of the following dimensions: If an apartment contains less than 2,500 cubic feet, the sash or sashes must give a superficial area in the proportion of one foot for every 100 cubic feet; and, if more than 2,500 cubic feet, then the superficial area of such sash or sashes must be one foot for every 150 cubic feet.

In every dwelling house consisting of more than three apartments the space for sleeping purposes must not be less than 300 cubic feet for every person of the age of 8 years and upwards, and for every person of an age less than 8 years, 150 cubic feet, exclusive of lobbies, closets, and presses, and of recesses not exceeding 4 feet in depth and not having a separate window.

Every ash pit shall be built of concrete or brick or stone, bedded or joined with cement or iron. The floor shall be on a level with the street, and built of concrete, and the walls, when not of iron, shall be plastered on the inside with cement to the height of 3 feet; dimensions, not less than 5 feet by 4, and 7 feet in height. For three tenements, the pit must be 7 by 6 feet. The openings for cleansing must be 2 feet square. An ash pit can be placed no nearer a dwelling than 12 feet, and must not be connected with any cesspool, drain, or common sewer. Ashes, etc., are removed from these pits in the night time by the municipality.

Every dry closet must be placed in a building which is perfectly ventilated and water-tight and 6 feet distant from any occupied building, and furnished with a moving receptacle of a pattern approved by the master of works. This receptacle is to be placed on the ground floor and easy of access. The entire floor must be of granite, concrete, or Caithness floys, with sawn joints, and the closets must be provided with ¾-inch water tap and case.

Every water-closet must be so constructed as to be fully flushed at every discharge, and no container or other similar fitting shall be constructed beneath the basin; and such closet shall have a suitable trap. Each water-closet shall have a window at least 4 feet square, exclusive of window frame, and made to open at least one-third of its area, communicating directly with the external air. It shall be supplied with water from a separate cistern with capacity to flush the water-closet; and there must be no direct communication between the service and supply pipes. All parts of the apparatus and soil pipes, as well as all pipes leading from sink basins, bath, and other water fittings, shall be sufficiently trapped and ventilated.

Every building having both water-closets and water fittings, shall be provided with soil and waste pipes. All pipes from water-closets and sinks which receive solid or liquid filth, shall be carried into and connected with the soil pipes; and no pipes conveying waste or overflow water from sinks, baths, or lavatory basins or from any safe plates, shall be carried into or connected with the soil pipes. All these pipes shall be sufficiently ventilated.

Every water fitting, including sinks, wash basins, baths, urinals, and wash tubs shall have the water lock of its trap at least 1½ inches. Each trap shall be fitted with a trap screw at the side or bottom for cleaning.

No cesspool shall be constructed within 100 feet of any dwelling house, or within 200 feet of any well, stream, or spring of water capable of being used for food or food processes. Cesspools must be so placed as to admit of being emptied or cleaned without carrying the contents through any building, except by the common entry or passage, and must be built of stone or brick, and made water-tight by cement inside with proper ventilation and outlet.

All soil pipes from water-closets, slop sinks, or troughs shall be at least 4 inches in internal diameter, and shall be connected with the drains without the intervention of a trap, and shall be continued upward of the full diameter to 2 feet above the ceiling of the highest inhabited room, and shall be carried out of the building, if possible, without bends and be securely supported.

All waste pipes from sinks, baths, and lavatories shall be carried out through an external wall and discharged into a suitable ventilating trap. Such pipes shall not be nearer than 4 feet to any roof window or skylight of an inhabited apartment. The dimensions of pipes are fixed as follows: Cast-iron Thones, size, 4½ inches, 2 pounds per foot; cast-iron conductors, size, 3 inches, 4 pounds per foot; cast-iron soil pipes, 4 or 4½ inches, one-fourth of an inch thick; lead branch soil pipes, 4 or 4½ inches, 7 pounds of lead per square foot; lead traps, water-closets, 4 and 4½ inches, 7 pounds of lead per square foot; lead water pipes, sinks, 2½ inches, 5 pounds of lead per square foot; lead traps, sinks, 2½ inches, 5 pounds of lead per square foot; lead overflow waste pipes, 1½ inches, 4 pounds of lead per square foot.

Every building shall be furnished with a stopcock for turning off the gas supply, which shall be placed on the street or court adjoining. No compo-

sition pipes shall be used for gas pipes under floors or where covered. Only pipes of iron, block tin, or other hard metal shall be used.

Every building shall be provided with a window hatch or hatchway on the roof, by which, in case of fire, access may be had to the roof from a common stair or the upper story of the building.

The construction and repair of all buildings are under the control of the Dean of Guild Court until completed, and none can be occupied until this court, through the master of works, finds that the building is acceptable in every respect under the rules and regulations above set forth. These regulations are all enforced by heavy fines and penalties, and the violation of them is looked after by the police force, as well as the Dean of Guild Court.

Buildings that are ruinous or in such a state as to be dangerous may be removed by the order of the master of works or the dean of guild, and they have authority to compel the owner to take down, remove, alter, restore, secure, or repair any building within a reasonable time.

If a dwelling or tenement becomes filthy or lacking in sanitary protection, the same may be declared untenantable by the Dean of Guild Court and the inmates removed; and the same can not thereafter be rented or occupied until repaired and put in proper sanitary condition. Provision is made that each occupier of a building must sweep foot pavements or sidewalks adjoining once each day, except Sundays, before 9 o'clock a. m.

GLASGOW HOUSES AND THEIR INHABITANTS.

Under these rules and regulations, the dwelling houses and tenements in Glasgow are constructed very much alike, and there is a monotonous sameness in them both inside and out. There are but few what are called here self-contained dwelling houses, *i. e.*, houses built for the exclusive use of one family, and these are mostly in the suburbs and inhabited by the very wealthy.

The houses are generally built in blocks from two to four stories in height, most commonly of three stories, the lower one being a basement from one-half to one-third above the street, with an area in front as deep as the basement, and inclosed by an iron railing.

Many of the people taking apartments in these buildings are lodgers. Most generally, a family takes a house and rents out rooms to lodgers. Each story above the basement is called a separate house, and these often have separate entrances. Others are entered from a common stair at the back end of a close or open hallway, separated in the middle of two tenements. Generally, the basement goes with the first story. Such a house will have a kitchen and wash-room, and several bedrooms, with parlors. For instance, there are houses with three rooms and a kitchen, and others with kitchen, one or more parlors, and bedrooms to go with the parlors. The occupier of the house, if it is a large one, will rent one parlor and so many bedrooms to one family and another parlor with bedrooms to another family.

Nearly all the houses built within the last ten years have at least three rooms and a kitchen, but many of the older buildings have less.

The curse of Glasgow in the past has been the number of families living in one room. From the census of 1881, it was found that the density of population in Glasgow was 84 persons to the acre, this being exceeded by no city in Great Britain, excepting Liverpool. At that time, 25 per cent of the inhabitants of Glasgow lived in houses of one apartment, and 45 per cent in houses of two apartments. These small houses, according to Dr. Russell, the chief medical health officer of the city, produce the high death rate of Glasgow. In them the death rate averaged, year after year, 38 deaths per 1,000 people. They are the homes of poverty, and are breeding places of immorality.

CORPORATION TENEMENT HOUSES.

To remedy these evils as much as possible, by giving better dwellings and more air and space to the people, the corporation of Glasgow procured the passage of an act of Parliament in June, 1866, known as the Glasgow improvement act, which act authorized, (1) the opening of certain new streets in the congested part of the city and specified in the act; (2) the altering and widening of certain existing streets and the closing and diverting of others specified in the act; (3) the purchase of lands by the municipality of Glasgow, by agreement with the owners, and holding of the same for the purposes of the act; (4) the soil of the streets closed up was vested in the municipality; (5) authority was given to take down buildings existing on lands acquired by the municipality, and also to sell, or feu, or lease said lands or buildings; (6) to erect and maintain upon such lands such "dwelling houses for mechanics, laborers, and other persons of the working and poorer classes, as the trustees from time to time think expedient, and let the same when so erected and fitted up to such mechanics, laborers, and other persons of the working or poorer classes" upon such terms as to them seemed fit.

The number of the laboring classes to be, by the operation of this act, displaced, was limited to 500 within any six months, unless suitable accommodations were provided in the meantime.

The lord provost (mayor), magistrates, and council of the city of Glasgow are made the trustees of the municipality under this act, and authorized to loan money to carry out its purposes. The municipal work, under this act, is called the "city improvement trust." The cost of the property acquired under the act, as shown by the last report for the year ending May 31, 1893, including the erection of two model tenements of dwelling houses and other tenements, and seven model lodging houses, was £1,994,331 ($9,695,411.80). The revenue derived was £1,007,411 ($4,902,565.17) leaving a deficit of £986,919 ($4,802,841.30).

The city improvement trust have also on hand property valued at £545,311 ($2,653,755.52) and Alexandra Park. They have, besides, 97,162 square yards of ground applied to the formation of twenty-nine new streets and in

the improvement of twenty-five existing streets. The total cost to the taxpayers has been, so far, £720,181 ($3,504,760.83).

In this area of property acquired by the city improvement trust, the portion sold or feued to private parties is now being built upon. The balance, still in the hands of the trust, and new property as fast as acquired, is being divested of the old buildings, and upon the grounds thus made vacant new tenements and shops are being erected, suitable to the locality and the demands of business. The old buildings are completely taken away and new and substantial ones built in their stead, according to the building rules and regulations heretofore given, and the streets and alleys enlarged, giving more air and space to the residents.

The tenements erected, if on principal streets, are generally of four stories, with basement. The usual width of the buildings, from the street back, is 35 feet, and the total height, from foundation in basement houses, 70 feet. The shops, if the lower story is built into shops or stores, are 13 feet 6 inches in height and the houses 11 feet.

The tenements are usually composed of a kitchen and one or two rooms. In the upper houses or stairs, the space above the open hallway or close of the lower story, is utilized for additional bedrooms—one for each house. Off from the kitchen is a scullery, with sink and water fixtures. Adjoining the scullery, with partition to half height, which permits light and air to pass over, is the bath and water-closet. The closet, in all cases, is so constructed as to be flushed at each use. Each house opens into a common close in which stairs ascend or descend to the floor above or below.

Other houses are constructed with an additional room or two, according to the locality and financial condition of the probable occupants.

All buildings in the city of Glasgow are furnished with water by the municipality at cheap rates, and there is always plenty of it. It is brought from Loch Katrine, and is of the best and purest quality.

The double shops were rented at about £45 ($218.99) per year on the average, the single ones at £18 ($87.59); three apartment houses at £17 ($82.73), two apartments at £10 8s. ($51.09), single apartments at £9 ($43.79) for the year 1893, in the Salt Market portion of the buildings.

The model lodging houses, seven in number, are a very material and beneficial part of the work done by the city improvement trust. The lodgers are charged from 3½d. to 4½d. (7 to 9 cents) per night. Six of these are for males and one for females. For the year 1893, these lodging houses paid in a net revenue of £3,682 ($17,918.09) above expenses and depreciation of capital cost. The nightly lodgings given out and paid for by the occupants in the year were 738,295, or an average of over 2,022 nightly. Of those thus sheltered, 45,392 were females, about 124 each night of the year. These lodging houses are kept neat and clean, and are a credit to the city, both in their financial and moral management, while the humane and beneficial effects can not be overestimated.

The practical effect, as regards morals, crimes, and health of the operation of the building laws and ordinances, has been very perceptibly for the good of the community. In the newer portions of the city, which have been built since the laws went into effect, the condition of the residents for the better can be seen at a glance while passing through the streets. A correspondingly marked degree of improvement can be seen in those districts where the city improvement trust has created new streets and widened others, and removed the old buildings and erected new ones. The death rate of Glasgow has been steadily decreasing, and last week showed but 15 per 1,000 in a season of the year ordinarily one of much fatality among children. Crime has decreased also, and is, as natural, most prevalent in those older parts of the city where the beneficial effects of the building laws and ordinances have not been as complete as in those portions where the buildings have all been erected in accordance with such ordinances, and under the eye of the municipality. The number of illegitimate births has also decreased, although I am unable to give the per cent of such decrease. The number of such births in Scotland is very large as compared with our country, or even with other parts of Great Britain; and the generally accepted causes of it are two, to wit, (1) the crowding of so many people into one or two room houses, and (2) the working of male and female farm laborers together in the field and the insufficient housing of such laborers; the same scarcity of room, though not to so great an extent, being noticeable in all the villages and rural districts in Scotland, as well as in the large cities.

As illustrating the evil effects of the old method of building dwelling houses, and the living of so many families in one room, I transmit herewith a pamphlet entitled Life in One Room, a lecture delivered in 1888 by James B. Russell, M. D., LL. D., at present and for many years, the highest medical officer of health for the city of Glasgow.*

ALLEN B. MORSE,
Consul.

GLASGOW, *September 19, 1894.*

LIVERPOOL.

Laws with regard to the construction and use of tenement houses, dwellings for artisans, and houses in which three or more families reside, in the city of Liverpool, have been passed from time to time during a very long series of years, but I am unable to get them in a collected form. As the question appears to refer to houses occupied by more than one family, I give herewith a set of by-laws upon this subject:

REGULATIONS WITH REGARD TO HOUSES AND PARTS OF HOUSES WHICH ARE LET IN LODGINGS, OR OCCUPIED BY MORE THAN ONE FAMILY.

Whereas, by an act of Parliament made and passed in the twenty-ninth and thirtieth years of the reign of Her Majesty Queen Victoria, entitled "an act to amend the law relating to the

* Filed in the Bureau of Statistics, Department of State.

public health," it is enacted that "On application to one of Her Majesty's principal secretaries of state, by the nuisance authority of the city of London, or any district or parish included within the act for the better local government of the metropolis, or of any municipal borough, or of any place under the local government act, 1858, or any local improvement act, or of any city or town containing, according to the census for the time being in force, a population of not less than 5,000 inhabitants, the Secretary of State may, as he may think fit, by notice to be published in the London Gazette, declare the following enactment to be in force in the district of such nuisance authority, and from and after the publication of such notice, the nuisance authority shall be empowered to make regulations for the following matters, that is to say:

"(1) For fixing the number of persons who may occupy a house or part of a house which is let in lodgings, or occupied by members of more than one family.

"(2) For the registration of houses thus let or occupied in lodgings.

"(3) For the inspection of such houses, and keeping the same in a cleanly and wholesome state.

"(4) For enforcing therein the provisions of privy accommodation, and other appliances and means of cleanliness, in proportion to the number of lodgings and occupiers, and the cleansing and ventilating of the common passages and staircases.

"(5) For the cleansing and lime whiting, at stated times, of such premises.

"The nuisance authority may provide for the enforcement of the above regulations by penalties not exceeding 40s. for any one offense, with an additional penalty not exceeding 20s. for every day during which a default in obeying such regulations may continue; but such regulations shall not be of any validity unless and until they shall have been confirmed by the Secretary of State."

And whereas, the Right Hon. Spencer Horatio Walpole, one of Her Majesty's principal secretaries of state for the Home Department, did, by notice published in the London Gazette, on the 21st day of August, 1866, declare the said enactment to be in force in the borough of Liverpool.

Now, at a meeting of the council of the said borough, held on this 10th day of March, 1869, the said council did, in pursuance of the aforesaid powers, make and ordain the following regulations:

(1) If it shall appear to the medical officer of health desirable that any house, let in lodgings, or occupied by members of more than one family, should be subject to these regulations, he shall notify the same to the chief or landlord's tenant of such house by printed circular, and shall keep in a book for that purpose a register of such house, with a cubical measurement of the several rooms of such house, and such house shall thereupon become subject to these regulations.

(2) The medical officer of health shall cause to be delivered to the chief or landlord's tenant a printed ticket, stating the number of persons allowed to sleep in each room of such house, and the number allowed to occupy such house; provided nevertheless, that in houses where one room is specially appropriated as a day room, and not used as a sleeping apartment, the space required for each adult inmate of all the other rooms of the said houses, being sleeping apartments, shall not exceed 300 cubical feet, and in houses where no room is specially appropriated as a day room, shall not exceed 350 cubical feet.

(3) Repealed January 1, 1886.

(4) That the owner, or agent of the owner of such house, shall cause the walls and ceilings of every room of such house to be well and sufficiently cleansed and whitewashed at least twice in every year; and if such owner or agent shall comply with this regulation, and such house is, nevertheless, in the opinion of the medical officer of health in a filthy condition, then the chief or landlord's tenant shall, upon a notice to that effect from the medical officer of health being served upon him, cause the walls and ceilings of such house and the common staircases and passages thereof to be well and sufficiently lime washed, cleansed, and whitewashed or lime whited.

(5) That if the chief or landlord's tenant, on receiving such notice from the medical officer of health, as above mentioned, shall refuse to admit the medical officer of health or any officer of the council, for the purpose of inspecting and measuring such house, or if he or any other person shall obstruct the said medical officer of health or other officer in such inspection or measurement, or shall refuse to admit the said medical officer of health or other officer into such house and allow him to inspect the same, either before or after the same shall have been registered, or shall in any way offend against or disobey these regulations, every such person shall for each offense be liable to a penalty not exceeding 40s., with an additional penalty not exceeding 20s. for every day during which a default in obeying these regulations may continue.

(6) Repealed January 1, 1886.

BY-LAWS AS TO HOUSES IN LIVERPOOL LET IN LODGINGS OR OCCUPIED BY MEMBERS OF MORE THAN ONE FAMILY.

Whereas, by the ninetieth section of the public health act, 1875, it is enacted as follows:

The local government board may, if they think fit, by notice published in the London Gazette, declare the following enactment to be in force within the district, or any part of the district, of any local authority, and from and after the publication of such notice such authority shall be empowered to make by-laws for the following matters, that is to say:

(1) For fixing and, from time to time, varying the number of persons who may occupy a house or part of a house which is let in lodgings, or occupied by members of more than one family, and for the separation of the sexes in a house so let or occupied.

(2) For the registration of houses so let or occupied.

(3) For the inspection of such houses.

(4) For enforcing drainage and the provision of privy accommodation for such houses, and for promoting cleanliness and ventilation in such houses.

(5) For cleansing and lime washing at stated times of the premises, and for the paving of the courts and courtyards thereof.

(6) For the giving of notices and the taking of precautions in case of any infectious disease. This section shall not apply to common lodging houses within the provisions of this act relating to common lodging houses.

On the 7th of October, 1885, the following by-laws were adopted:

(1) That from and after the 1st day of January, 1886, regulations No. 3 and No. 6, made by the council of the city of Liverpool on the 10th of March, 1869, and confirmed by the Secretary of State for the Home Department on the 23d of March, 1869, shall be repealed.

(2) The chief or landlord's tenant shall cause the floor of each room of such house to be well and sufficiently swept at least once in each day, before the hour of 12 o'clock noon, and shall cause the windows of every sleeping room in such house to be opened to the full width thereof during one whole hour before 12 o'clock noon, and during one other whole hour between 12 o'clock noon and 4 o'clock in the afternoon, unless prevented by tempestuous weather or the illness of any inmate of such room; and shall cause the floors of every inhabited room and the stairs and passages of such house to be washed at least once a week, viz, every Friday or Saturday before 12 o'clock noon.

(3) The chief or landlord's tenant of a lodging house, immediately after he shall have been informed, or shall have ascertained that any person in such house is ill of an infectious disease, shall give written notice thereof to the medical officer of health.

(4) In every case where a lodger in a lodging house has been informed, or has ascertained, or has reasonable grounds for believing that an occupant of any room which has been let to such lodger is ill of an infectious disease, such lodger shall forthwith give written notice thereof to the chief or landlord's tenant and to the medical officer of health, and verbal or written notice thereof to every other lodger in such house.

(5) In every case where, in pursuance of the statutory provision in that behalf, an order of a justice has been obtained for the removal from a lodging house to a hospital, or other place for the reception of the sick, of a person who is suffering from any dangerous infectious disorder, and is without proper lodging or accommodation, or lodged in a room occupied by more than one family, the chief or landlord's tenant of such house, and the lodger to whom any room whereof such person may be an occupant has been let shall, on being informed of such order, forthwith take all such steps as may be requisite on the part of such chief or landlord's tenant and of such lodger, respectively, to secure the safe and prompt removal of such person in compliance with such order, and shall, in and about such removal, adopt all such precautions as, in accordance with any instructions which such chief or landlord's tenant and such lodger, respectively, may receive from the medical officer of health, may be most suitable for the circumstances of the case.

(6) Every person above the age of 12 years shall be considered an adult, and two persons under 12 shall be considered one adult.

(7) Every person who shall offend against any of the foregoing by-laws shall be liable for every such offense to a penalty of 40s., and in the case of a continuing offense to a further penalty of 10s. for each day after the written notice of the offense from the corporation; provided, nevertheless, that the justices or court before whom any complaint may be made or any proceedings may be taken in respect of any such offense may, if they think fit, adjudge the payment, as a penalty, of any sum less than the full amount of the penalty imposed by this by-law.

(8) These by-laws shall commence and take effect from the 1st day of January, 1886.

The following are the regulations under which the common lodging houses are governed:

Whereas, the council of the said city are desirous of making regulations respecting the common lodging houses within the said city,

Now, therefore, the council of the said city, at a meeting held in the council chamber, within the town hall, on the 4th day of August, 1869, in pursuance of the powers vested in and conferred upon them by the common lodging houses act, 1851, and the common lodging houses act, 1853, do make and ordain the following regulations, that is to say:

(1) That the by-laws made for the regulation of lodging houses by the council, on the 3d day of May, 1848, and on the 4th day of April, 1860, be, respectively, repealed from the date of these regulations taking effect.

(2) That every person keeping, or intending and desiring to keep, take, or open, any lodging house within the said city, and subject to the provisions of the said acts, shall, on or before the day on which these regulations take effect; or, if such person shall not, previous to or on the said last-mentioned day, be a lodging-house keeper; or if such house shall not on the said last-mentioned day be open for the accommodation of lodgers, then, fourteen days at least before such person shall take, keep, or open such lodging house, and before any lodger shall be received or accommodated in such house, make application in writing in the form or to the effect contained in the schedule to these by-laws, annexed and marked A, at the office of the medical officer of health for the time being, within the said city; and every person who shall, after the said day, take, keep, or open any such lodging house within the said city, or receive or accommodate any lodger therein without having made such application as aforesaid, or before the expiration of the said fourteen days, shall, for every such offense, forfeit and pay not exceeding the sum of 40s.

(3) That every person who shall, in making such application, knowingly make any false statement regarding any of the particulars required to be stated in such application, that is to say, regarding his or her christian or surname, the situation or number of such house, the number and description of rooms in such house, or the number and description of his or her family, or of other persons resident in such house, shall, for every such offense, forfeit and pay not exceeding the sum of 40s.

(4) That the keeper of every such lodging house shall, within four days after the delivery at such lodging house of a notice that the said council or health committee has fixed the number of lodgers to be accommodated in such house, apply at the office of the medical officer of health for as many tickets in the form set out in the schedule hereto annexed, and marked B, as there are rooms in such lodging house, and on the same being delivered to him or her, shall sign an acknowledgment of the receipt thereof, and shall forthwith place, affix, keep, and continue one of such tickets in such part of each room in such lodging house as shall be ordered and directed by the medical officer of health for the time being, and shall not afterwards remove or deface the same, or permit or allow the same to be removed or defaced, unless by order of the said council or health committee; and shall from time to time produce such tickets upon the order or request of the medical officer of health, and deliver the same to such officer on demand, for the purpose of having such alteration made therein as the council or health committee shall from time to time order or direct. And every such keeper of a lodging house who shall receive or accommodate any lodger in such house without having supplied for and obtained such ticket; or who shall receive or accommodate, or permit or suffer to be received or accommodated, in any such house at any one time, a greater number of lodgers or other persons than shall from time to time be fixed and determined by the said council or health committee, and contained and expressed in such ticket; or who shall refuse or neglect so to place, affix, keep, or continue such ticket; or who shall remove or deface such ticket, or permit the same to be removed or defaced, unless by order of the said council or health committee; or who shall neglect or refuse to produce such ticket upon the order or request of the said medical officer of health, or to deliver the same to such officer on demand, shall, for each and every such several and respective offense, forfeit and pay not exceeding the sum of 40s.

(5) That the keeper of every such lodging house who shall neglect or omit to cause the windows of each and every sleeping room in such lodging house to be and continue open to the full width thereof, from the hour of 9 to the hour of 10 in the morning, and from the hour of 2 to the hour of 3 in the afternoon, of each and every day, unless prevented by tempestuous weather, or by the illness of any inmate of such room; or to cause the floor of each and every room in such lodging house to be well and sufficiently swept, at least once in each day, before the hour of 10 in the forenoon; or to cause the floor of each and every room in such lodging house to be well and sufficiently washed on Friday in each and every week, before the hour of 12 at noon; or to cause such lodging house to be thoroughly cleansed and the walls and ceilings of every room therein to be well and sufficiently lime washed, and the blankets, rugs, bedclothes, and covers used in such lodging house to be thoroughly cleansed and scoured, at least three times in each and every year—that is to say at least once some time during the first week of each of the several months of April, August, and December, shall, for each and every such neglect and omission respectively, forfeit and pay not exceeding the sum of 40s.

(6) That in case of fever, or any other infectious or contagious disorder, occurring in such lodging house, whether to any lodger or to any other person residing or being in such house, the keeper of such house, who shall neglect or omit forthwith to give notice thereof to the medical officer of health at his office, for the time being, or to cause the blankets, rugs, bedclothes, and covers, which shall have been used in such house by any person affected by any such disorder, to be thoroughly cleansed and scoured, and the bedding used in such house by such person to be fumigated, and when the same consists of straw or shavings to be burned or destroyed immediately after the removal of such persons so affected, in such manner as may from time to time be ordered and directed by the said medical officer of health, shall, for every such neglect and omission, forfeit and pay not exceeding the sum of 40s.

(7) That the keeper of every such lodging house who shall neglect or omit to provide good and sufficient accommodation for washing, together with a sufficient supply of water for the use of the lodgers in such house, shall, for every such neglect or omission, forfeit and pay not exceeding the sum of 40s.

(8) No keeper of a common lodging house within the city of Liverpool shall admit or suffer to remain in any room of any such house a greater number of lodgers than shall be fixed by the health committee of the council of the said city.

(9) A ticket signed by the medical officer of health of the said city, stating the entire number of lodgers allowed to sleep in each such room, shall be placed by the keeper of such house in a conspicuous part of each such room, and shall at all times be kept by him or her visible and legible.

(10) Two children under 10 years of age to be counted as one lodger.

(11) Each room so occupied as a sleeping room shall be furnished with sufficient bedsteads and sufficient bedding for the number of lodgers authorized to be received into such room.

(12) Whenever the medical officer of health of the said city for the time being shall, under special circumstances, consider it necessary to reduce the number of lodgers for any such room, the keeper of the house shall, upon receiving notice to that effect from the said medical officer of health, receive and accommodate in such room such reduced number, and no more, until the said medical officer shall otherwise direct.

(13) Persons of different sexes shall not occupy the same sleeping room, except married couples, or parents with their children under 10 years of age or any children under that age.

(14) More than one married couple shall not occupy the same sleeping room, unless the beds are separated by a partition to secure the privacy of such married couple; such partition to be of wood, or other solid material, and of such height as shall be fixed in each case by the medical officer of health of the said city.

(15) The penalty for every breach of the above regulations shall be any sum not exceeding 40s.

(16) These regulations shall commence and take effect from the 1st day of September, 1869.

Schedule A.—Form of application for registry.

No. ——. Liverpool, ———, A. D. ——.

I, [insert the name of the applicant in full], hereby apply to be recorded as a lodging-house keeper, and to have the house No. [insert the number of the house, if any], situate at or in [insert the name of the street, court, or other place], registered as a lodging house, pursuant to an act for the improvement of the sewerage and drainage of the borough of Liverpool, and for making further provisions for the sanitary regulation of the said borough.

The situation and number of such house are as stated above.

The said house contains [insert number and description of rooms]. My family consists of [insert the wife, number, sex, and age of children, as the case may be]. And I have residing with me [insert the names, number, and description of any inmate, servant, or other persons residing with the applicant]. I desire to have the said house registered as a lodging house to accommodate and receive —— lodgers.

(Signed) A. B.

To the Council and Health Committee of the City of Liverpool.

Schedule B.—Ticket.

No. [insert number on register]; lodging house [insert the number and situation of the house in respect of which the ticket is granted], kept by [insert keeper's name], registered to accommodate —— lodgers.

RULES AND INSTRUCTIONS.

(1) No greater number than —— lodgers are to be received or accommodated in this house at any one time.

(2) The windows of every sleeping room in this house are to be opened, and kept open to their full width, from 9 to 10 o'clock every morning and from 2 to 3 o'clock every afternoon (weather permitting), unless in case of sickness in any room requiring the windows to be closed.

(3) The floors of every room in this house shall be well swept every morning before the hour of 10, and shall be well washed during the morning of every Friday.

(4) This house shall be thoroughly cleansed, and the walls and ceiling of every room in this house shall be well and sufficiently lime-washed, and the blankets, rugs, and bedclothes and covers used in this house shall be thoroughly cleansed and scoured in the first week of each of the months of April, August, and December.

(5) Upon any person in this house, whether a lodger or one of the family, being affected with fever or any contagious or infectious disorder, the keeper shall forthwith give notice thereof to the medical officer of health, at his office, Municipal Offices, Dale street, and the medical officer will visit the house and take such proceedings as he shall think proper in compliance with the act.

(6) If any person in this house shall be affected with fever or any infectious or contagious disorder, the blankets and bedclothes used by such person shall be thoroughly cleansed and scoured, and the bedding fumigated immediately after the removal of such person, and where the bedding used consists of shavings or straw, the same shall be burned immediately after such removal.

(7) The keeper of this house shall provide sufficient accommodation for washing, together with a sufficient supply of water for the use of the lodgers herein.

(8) The keeper of this house shall reduce the number of lodgers, or shall cease to receive and accommodate lodgers altogether, immediately upon receiving notice to that effect from the medical officer of health.

(9) This ticket shall be placed and kept in such situation in this house as the medical officer of health shall from time to time direct, and shall be produced and delivered to such officer on demand.

N. B.—The keeper of any lodging house defacing or removing this ticket or disobeying the above rules and instructions, will be liable to the several penalties in that behalf provided by the by-laws for regulating lodging houses; a copy whereof may be obtained on application at the office of the town clerk, at the Municipal Offices, Dale street.

By order of the health committee.

(Signed) ——— ———,
Town Clerk.

This ticket was issued the —— day of ——, A. D. ——.

It is stated that the practical effect of the operation of such laws and ordinances has been to improve morals, health, and greatly decrease crime heretofore prevalent among the people inhabiting these houses.

There are no data available that will show the change in the death rate, number of illegitimate children, and crimes committed in this district as separated from the entire city. It is, however, stated that the practical effect of these ordinances and laws has been one of improvement in all respects.

Several years ago, the corporation undertook to erect artisans' tenements and dwellings with all the latest sanitary improvements at the lowest possible rental. On December 6, 1889, my predecessor, Mr. Sherman, among other topics of interest, reported upon these dwellings, and in order to giv

a full description thereof he forwarded an essay on the subject which had been prepared by the city engineer. This information was published in CONSULAR REPORTS No. 117 (June, 1890), pp. 298–303.*

I have made inquiries to learn whether any other such buildings have been erected and if anything could be added to the report made by Mr. Sherman, and am informed in the negative to both questions.

As to the moral effect of these buildings on the people as regards crime, health, etc., I am unable to get an expression of opinion from the authorities on the ground that they are forbidden to make any comment thereon. There are no statistics available that apply to this district only, but, generally, the condition of the whole city is improved in this respect.

Only one inquiry into the condition of dwellings of the poor has been recently made. This was by Mr. Arnold Taylor, an inspector appointed by the local government board to make inquiries upon an application by the corporation of the city for leave to borrow $125,000 for the demolition of insanitary property. I inclose herewith a print of the shorthand notes† taken at the inquiry, which was supplied to me by the town clerk of this city. Since the inquiry the local government board have sanctioned the borrowing of the amount named, and recently the grand jury, at the quarter sessions, ordered the demolition of about five hundred and seventy insanitary dwellings.

JAMES E. NEAL,
Consul.

LIVERPOOL, *September 14, 1894.*

ARTISANS' DWELLINGS.

One other great work accomplished and being accomplished by the corporation of Liverpool should be noted here, the rehousing of the artisan and laboring classes in sanitary dwellings—dwellings possessing all the most recent sanitary improvements at the lowest possible rental, 1s. (24 cents) per room per week.

It is well understood that in all large cities one of the most cruel, intolerable, and dangerous social evils is the insanitary condition of the dwellings in which the very poor are compelled to live. Liverpool is grappling this problem in a practical way, with most gratifying results. Large areas occupied by the filthiest dens have been cleared and immense blocks erected in their places specially planned for renting at low rates to the poorer classes. These buildings are owned by the city, and the occupants are required to observe the strictest sanitary regulations.

The accompanying essay on this subject, prepared by the city engineer, is elaborately illustrated, and gives all the details of the plans. Any attempt

* Reprinted herewith as a supplementary report.

† These notes, too voluminous for publication, are filed in the Department.

on my part to condense it would be unwise, and so I transmit it, with Mr. Dunscombe's kind permission, to make such use of it as the Department may see fit:

ARTISANS' DWELLINGS, VICTORIA SQUARE, LIVERPOOL.

[From the "Rehousing of the Artisan and Laboring Classes," by Clement Dunscombe, city engineer, Liverpool.]

These dwellings, which were opened in the autumn of last year, have been erected by the corporation of Liverpool from designs by the city engineer (Mr. Clement Dunscombe, M. A., M. Inst. C. E.) and under his superintendence.

The designs, as well as others for dwellings suitable for the poorer classes, capable of being let at rents of 1s. and 1s. 3d. per room per week, were exhibited at the International Health Exhibition in London two years ago; the corporation of Liverpool was awarded a diploma of honor for the exhibit, and Mr. Dunscombe was awarded a gold medal for the designs.

The buildings occupy part of a site formerly known as Nash Grove, situated in Scotland ward in the parish of Liverpool. The area was cleared under the artisans' and laborers' dwellings act, 1875. It comprised 22,487 superficial yards, of which 3,717 superficial yards were occupied by public streets and the remainder by low-class, unhealthy dwellings and buildings and yards in use for trade purposes. The population displaced by the carrying out of this scheme was 1,310, of which population 1,100 were of the working classes; and the number of people living on this area, under the worst sanitary conditions, was at the rate of 282 per acre.

After the site was cleared and filled up to a proper level, it was laid out for the erection thereon of artisans' and laborers' dwellings and offered by auction, but no bids could be obtained for it; and, as private enterprise could not be induced to take the matter up, the corporation was therefore reluctantly compelled to erect these dwellings on a portion of the site. Again, in November, 1884, the remaining area unbuilt upon was offered by auction, and, although an extremely low reserve price was fixed so as to admit of buildings being erected upon it to pay a moderate rate of interest, this further effort on behalf of the corporation was likewise unsuccessful.

Site.—The site upon which the dwellings have been erected is bounded on every side by streets, and contains 9,195 superficial yards, of which 3,924 superficial yards are occupied by dwellings and 5,271 superficial yards in approaches and in a quadrangular open space suitably laid out. Tramways, affording cheap means of communication with all parts of the city, pass along two of the streets.

The entire area occupied by buildings, after being excavated to the requisite depths, was covered with a layer of portland-cement concrete averaging 9 inches in thickness, the concrete foundations for the walls being carried to a greater depth, and for a width of from 3 to 5 feet to receive the various footings to the brick walls.

Above the ground level a damp-proof course of asphalt is laid over all the walls throughout.

The quadrangle is laid out with wide foot walks and a 15-foot carriage way round the buildings. The central portion of the quadrangle is inclosed by a low wall and iron railing provided with entrance gates in convenient positions. On the inside of this inclosure a border for shrubs has been reserved. The remainder is laid out as a playground and finished in portland-cement concrete.

The footways are likewise laid with 6-inch portland-cement concrete, and the carriage ways are formed with similar foundations, the surface being finished in compressed natural asphalt.

All the streets surrounding the dwellings have a 6-inch portland-cement concrete foundation, and are paved with syenite sets, the joints being filled with dry shingle and grouted with a mixture of pitch and creosote oil, the foot walks being finished in compressed asphalt. The site is therefore practically impervious.

The buildings are five floors in height and divided by party walls into thirteen separate dwellings, each of 75 feet frontage and 36 feet in depth, outside measurements. They are arranged so as to admit of a free circulation of air around them.

There are five entrances to the quadrangle, provided with ornamental wrought-iron gates, approached from the surrounding streets.

Two of the blocks have shops on the ground floor, with spacious basements, lavatory, and water-closets connected with the shops by staircases. These blocks have only four floors of tenements above them. All the other blocks are entirely devoted to dwellings, and have no basements.

Each dwelling has a separate entrance from the quadrangle and common staircase, giving access to the corridors and tenements right and left on each floor.

There are in the thirteen dwellings two hundred and seventy-one tenements and a superintendent's house, made up as follows:

	No. of rooms.
86 three-room tenements	258
164 two-room tenements	328
21 one-room tenements	21
Superintendent's house	4
Total	611

The three-room tenements are arranged as a living room, 13 feet by 12 feet 4 inches; one large bedroom, 15 feet 3 inches by 9 feet 7 inches, capable of being divided into two bedrooms by a movable screen, with separate entrances to each half; one bedroom, 13 feet by 8 feet 6 inches.

The two-room tenements are arranged as a living room, 13 feet by 12 feet 4 inches, and one bedroom 15 feet 3 inches by 9 feet 7 inches, capable of division as above described.

The one-room tenements are arranged as a living room and bedroom combined, 12 by 12 feet.

All the rooms are 9 feet in height.

The twelve shops have a frontage of 12 feet 6 inches each, a depth of 32 feet, and an average height of 11 feet, with basements 9 feet in height under the entire area of the shops.

Water-closets.—Entering from a lobby out of the corridors, and adjacent to the sculleries, water-closets, slightly projecting beyond the main line of buildings, are provided, two on each floor for the joint use of the four tenements. These water-closets are thoroughly disconnected from the tenements; they have constant through ventilation and pivot hung windows, and are fitted with Bristol glazed flush-out closets of the best construction, and water-waste-preventing cisterns.

Staircases, lobbies, and floors.—There are thirteen staircases, one to each dwelling. The stairs and landings are of stone. The landings to the stairs are open to the quadrangle front for their entire height, and project from the main building, forming a balcony protected by a wrought-iron railing. The stairs and corridors are amply lighted by the windows of the sculleries and by these openings, thus affording through ventilation from front to back of each dwelling.

The floors of laundries, sculleries, corridors, and water-closets are of portland-cement concrete; the floors to living rooms and bedrooms are boarded, but are specially constructed to prevent, as far as possible, the spread of fire.

A granolithic washable dado, finished terra cotta color, is formed for a height of 4 feet round the staircases and corridors, above which the walls are plastered and colored in a suitable tint. The walls of the laundries and water-closets are fair pointed and lime whitened.

Receptacles for dust, ashes, and other refuse.—The dust and ashes only on each floor are disposed of through a ventilated shoot formed in the angle of the lobby leading to the water-closet. This shoot terminates in a receptacle placed in position on the ground floor, and there are two connections in this shoot in the corridors on each floor. Provision is made for all

other refuse being deposited in special orderly bins, external to the building, and placed in the railing of the inclosure in the quadrangle.

Laundry.—In addition to the above accommodation, each tenant will have the sole use, for a fixed day or portions of days, of a spacious laundry placed centrally on each floor, with two entrances from the corridors, and intended for the use of the four tenements on that floor. The laundry is lighted by a large bay window, which is divided into several pivot-hung sashes all opening for ventilation. By the proposed arrangements, each tenant will have for the day, or portions of days, the privacy that would attach to a laundry within his own tenement without any of the disadvantages arising from conducting washing operations therein. It is fitted up with double wash troughs and a copper, water being laid on to each. A galvanized iron hood is placed over each copper and connected with the flue, so that the steam may be speedily carried away.

Sculleries.—On each side of the laundry, on every floor, immediately leading from the corridor, is provided a double sink of Bristol glazed ware, with hard wood drainers with water laid on to each, being one sink for the use of each tenant. An additional water tap is placed in the corridors on each floor near the sculleries.

The interior of the tenements is made as attractive and cheerful as possible. The walls of all the rooms are plastered and finished in distemper. Around the living rooms there is a dado of a dark tint surmounted by a neat stenciled border, above which the walls are finished in a lighter color. Special care has been exercised in selecting serviceable and pleasing tints for the finishing colors of the woodwork and distempering. The fittings to each tenement comprise a series of useful articles, thus dispensing to the fullest extent with movable furniture. A special combination dresser, larder, coal bunker, and closet are provided in each living room. The larder is fitted with slate shelves, meat hooks, hangers, etc., and is ventilated by openings into the corridor filled in with terra cotta ventilators covered on the inside with perforated zinc. There are also attached cup-rails, small and large cupboards, drawers, etc., and underneath a coal bunker with sliding doors in the living room and fitted with a small door in the corridor, through which the coals can be delivered.

Hat and coat rails are fixed in all the rooms, and in the bedrooms shelving and hanging closets, and in the divisible bedrooms, which are provided with two entrances, one of which forms a convertible closet when not required as an entrance.

The sashes of all the windows throughout open for their entire area. They are divided into three parts, the lower sashes being double hung and the upper sash pivot hung. The lower portion of each window is divided into small squares, and is glazed with cathedral-tinted glass, giving both a cheerful appearance and at the same time acting as a window blind. The windows of all the living rooms and bedrooms are fitted with venetian blinds, stained and varnished.

Adequate provision has been made for the admission of fresh air through the ventilators in external walls and corridors, and the extraction of foul air is provided for through flues in the chimney breast fitted with mica flap ventilators.

Each living room has a specially designed cast-iron combination mantel and overmantel and a cooking range fitted with oven, plate rack, and other useful accessories. All parts liable to heavy wear are made in wrought iron, such as the fire bars and fall-down bars of fire grate and draw-out fret, etc. At the back of the fire grate a hot-air chamber has been constructed, which is supplied with cold fresh air through perforated terra cotta air bricks fixed in the external walls and thence through a cavity formed in the wall leading to the air chamber. The air, when warmed, passes through pipes leading to the living rooms and bedrooms, the supply being regulated by cast-iron hit-and-miss ventilators placed in the walls of these rooms.

The whole of the door furniture and fittings and general ironmongery is specially designed and made of malleable iron, the cost being less than the commoner furniture generally used.

The outer door of each tenement is furnished with a malleable iron knocker representing "the liver" (which forms part of the corporation crest), a door handle forming a knocker

capable of being used by children, and an enameled iron number. The keys to all locks throughout each dwelling vary.

Elevation of buildings, etc.—The buildings have been erected in Liverpool of gray common bricks, with splayed red pressed-brick arches and window jambs, molded labels over window panels and under same, cornices and bands, and red pressed bricks used sparingly in a few other places. Red terra cotta has been used in the main entrance doorways and dormers. Wrought-iron balconies are introduced in connection with the main staircase of each dwelling in the quadrangle front. The roof is covered with Welsh slates from a selected quarry, and there are Yorkshire stone sills to all windows, projecting one foot from the face of the wall for plants in pots or window boxes, each being fitted with neat wrought-iron guard rails.

The buildings have practically double elevations, requiring careful treatment. The wall surface has been broken by slight projections surmounted by dormers. The extra cost incurred by this mode of treating the elevations, by the introduction of terra cotta and the materials already described, over elevations of the plainest character, is inappreciable in so extensive a block of dwellings.

Sewerage and drainage.—The sewers in the streets surrounding the dwellings are brick sewers 3 feet by 1 foot 10 inches. They are of recent construction, and thoroughly ventilated at frequent intervals by means of open grids. They receive all the waste and soil pipes from the buildings, with the exception of the block fronting Cazneau street.

The drains in the quadrangle consist of glazed earthenware socket pipes, calked and jointed in portland cement, 6, 9, and 12 inches in diameter, respectively. One of these takes the waste and soil pipes from the closets of the shops above referred to, and eventually discharges into the main sewer. The others only receive the water from the roofs and the surface water of the quadrangle. The former drain is ventilated by a special 6-inch ventilating shaft fixed to the building, discharging well above the roof line, and is furnished at its highest point with an automatic flush tank of 300 gallons capacity, constructed in brickwork.

The remaining drains in the quadrangle are also ventilated. The whole of the waste pipes from the buildings are disconnected from the drains, and discharge into ventilated 4-by-4-inch cast-iron pipes attached to the buildings, and they are calked and jointed in red lead. These pipes again discharge over the water line of a trapped gully at the foot of same, fixed in the footpath within the building line and covered with a grating acting as an air inlet.

The closets discharge into an external 6-inch socketed and lead-jointed cast-iron soil pipe, with special junction cast on, of sufficient length to reach inside the wall of the building to receive the outlet from the closet, the joint being made within the wall line. These soil pipes continue above the roof line the full diameter, and terminate with a cowl on top, and are supplied with fresh-air inlets. Both the siphon and improved flush-out closets are of Bristol glazed ware, the former having an air-tight inspection cover.

The waste pipes from the sculleries, sinks, wash troughs, etc., are formed entirely of Bristol glazed pipes 1¾ inches in diameter, thus dispensing with lead piping. They are fitted underneath with a siphon of the same material, furnished with an air-tight inspection inlet, with the requisite piping, and discharging external to the buildings, as already described.

The public drains are flushed at frequent intervals, and all the private drains within the city are flushed twice annually, free of cost, by the corporation, and oftener on payment of a small fee by owners of the property. These regulations will equally apply to this block of buildings.

Water supply.—A constant-service supply is laid on to every floor of the dwellings, to sinks, and laundries, and in corridors. The taps in the corridors are provided with half coupling on nose for hose pipe, rendering them capable of being used in case of fire on any floor. Fire hydrants are also fixed around the quadrangle, and two double drinking fountains are provided. All water for domestic use is drawn direct from the mains. A 500-gallon slate storage cistern fixed in the roof of each dwelling supplies the 6-gallon flush regulating cisterns fixed over each water-closet. All taps used are screw-down bib taps. The whole of the fittings are of the best description, stamped and approved by the water department of the corporation of Liverpool.

Gas supply.—Gas is laid on to the buildings through an independent 3-inch cast-iron main laid around the quadrangle. The outlet from the street main leads into the meter house in the basement of the superintendent's house, in which are fixed two 200-light meters discharging into the 3-inch main.

The gas supply is under the control of the superintendent, in his general office, by means of a wheel attached to a valve on the main. Pressure gauges are also fixed in his office to facilitate the adjustment of supply, and a three-fourths-inch by-pass is fixed on the valve to prevent the total extinction of the lights.

Branches to each of the thirteen blocks are laid from the main, with a stopcock fixed on same on the outside of the building, inclosed in a suitable iron box. The corridors and sculleries are provided with glazed lanterns of suitable design affixed to the walls, and in each of the living rooms and laundries an ornamental iron pendant, with ball joint, is fixed. Over the entrance door to each dwelling a bracket lamp of ornamental design has been fixed, also lamps to main entrance in Cazneau street.

The fittings throughout are of the best description of their class, and every precaution is taken to avoid the waste of gas and insure its economial consumption. To each of the burners in the corridors, sculleries, and laundries a special cock is fixed capable only of being opened or shut by a key in the possession of the superintendent, also separate main cocks to the supply pipes laid to each of the tenements and fixed in the corridors. These are also under his control.

Governors are fixed to all the lights, limiting the consumption to 3 cubic feet per hour of 20-candle gas, with the exception of the outside lamps, which are rated at 4 cubic feet per hour.

Cost of dwellings and estimated returns.—The total estimated cost of the dwellings, including the market value of the site, viz, 9,195 yards of land, is £70,000. It is estimated that at least the following moderate rents will be readily obtained, viz: Three-room tenements, 6s. per week; two-room tenements, 4s. 6d. per week; one-room tenements, 2s. 3d. per week.

These rents are exclusive of the charge for gas if used in the living room, but inclusive of all rates and taxes, which will be paid by the corporation. These rents are well within the means of those of the artisan class who require to reside near their work, and for whom these dwellings have been erected. They compare favorably with the average rents generally paid for inferior accommodations now provided in cottage houses in Liverpool.

On this basis, and a moderate estimated rental for the shops, after allowing ample margin for all leakages, such as rates, taxes, insurance, superintendent's salary, empties, and repairs, the buildings only should yield a net return of 4½ per cent on their estimated cost of £55,000 and still leave a balance of rental which, if capitalized on a 3½ per cent basis, will represent the full market value of the site for this purpose.

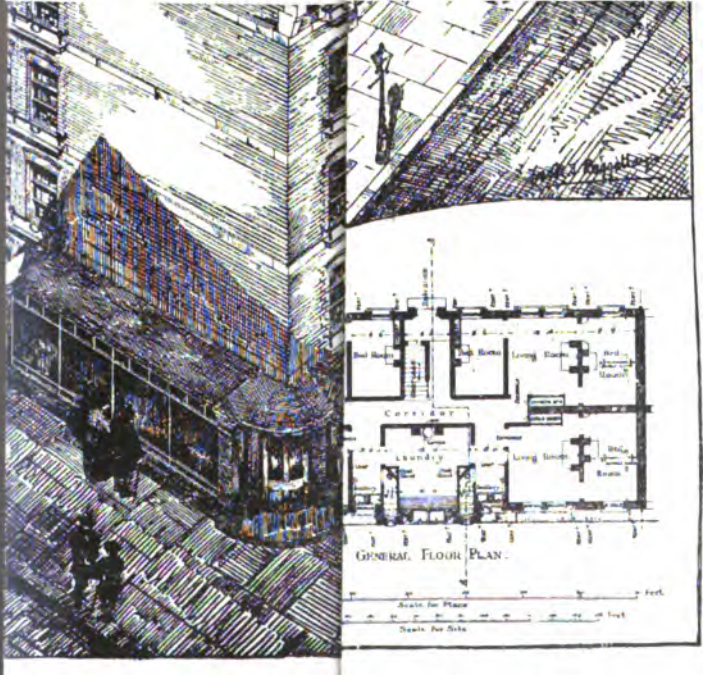
In judging the financial result of this scheme, it has to be borne in mind that the object of the corporation was not to cover this site to its full capacity with dwellings, but to erect buildings of the best class for their purpose and of the highest sanitary standard, thus affording an example to be followed in the future by private enterprise, while, at the same time, providing a large unbuilt-upon space in this densely populated district.

The unbuilt-upon open space attached to these dwellings over and above that required by the Liverpool building act is 2,845 square yards.

The value of this land, as well as the cost incurred in laying it out, is included in the total cost upon which the above percentage returns have been calculated.

Messrs. Hughes & Stirling, of Liverpool, were the contractors for the buildings.

The corporation supplied the ranges, grates, and ironmongery to be fixed by the contractors. They have also executed certain other works in connection with the buildings, viz, the external gas supply and the granolithic dado, by contract; and the external drainage, laying out and paving of the site, and the paving of the abutting streets and other minor works by corporation workmen.


Bed Rooms
Sick Rooms
Living Rooms
Bird Cage Verandah
Corridor
Laundry
Living Rooms
Bath Rooms
GENERAL FLOOR PLAN.
Scale for Plans
Scale for Sites

VERPOOL.

Mr. John G. Garthwaite acted as chief architectural assistant, both in connection with the preparation of the contract and the detail drawings and during the execution of the works. Mr. Augustus F. Scott acted as clerk of the works.

CONCLUSION.

The foregoing and other public works carried on by the corporation for many years past, with the careful supervision exercised by the health officials, have produced highly satisfactory results, as witness the gradual reduction of the death rate of the city from 27.2 in 1880 to 20.3 in 1888—a net reduction of 6.9 per thousand.

THOS. H. SHERMAN,
Consul.

LIVERPOOL, *December 6, 1889.*

LONDON

Until the year 1890, the modern public laws dealing with tenement houses and dwellings for working people in force in the metropolis of London, were acts of Parliament of 31 and 32 Vict., chapter 130; 42 and 43 Vict., chapter 64; 45 and 46 Vict., chapter 54; 38 and 39 Vict., chapter 36; 42 and 43 Vict., chapter 63; 45 and 46 Vict., chapter 54, part 1.

I place these acts out of strictly chronological order because they divide into two groups.

The first three acts, the result of long and strenuous agitation, in and out of Parliament, are properly designated as the "Torrens act and the acts in amendment thereof." They operate mainly upon single dwellings and limited areas discovered to be in an insanitary condition.

The second group, called "the artisans' dwellings improvement acts," deal with greater spaces and provide for vast schemes of reclamation and reconstruction.

Both sets of laws, among other things, authorize the condemnation, by the local authorities, of dwellings unfit for habitation, and generally provide for the destruction of the buildings, the purchase or taking of the land, and the erection of proper habitations thereon.

Advantage not having been largely taken of these powers by the local authorities, a royal commission was created in the year 1884 to consider the general subject of the housing of the working classes. That commission was representative of all elements of the population, from royalty to labor. Its members were Sir Charles Dilke (chairman), the Prince of Wales, Cardinal Manning, the Marquis of Salisbury, Earl Brownlow, Lord Carrington, George J. Goschen, Sir Richard Cross, the Bishop of Bedford, Edward Lyulph Stanley, William T. M. Torrens, Henry Broadhurst, Jesse Collings, George Godwin, Samuel Morley, Sir George Harrison, and Edmund Dwyer Gray. The commission took a large mass of testimony, and reported to Parliament in the following year, agreeing in their general conclusions, but

some of the members making separate recommendations or expressing separate opinions on specific points.

The collective judgment expressed by the commissioners, and their individual opinions, are too voluminous to be incorporated in this report. I herewith forward a copy of the report for the purpose of reference or such use as the Department may determine.*

Whether, in consequence of this report or not, an act of Parliament was passed in 1885 (48 and 49 Vict., chapter 72) "to amend the law relating to dwellings of the working classes," which need only be referred to in passing, as it and its predecessors were superseded practically by the later general act of 1890. The student of the growth of parliamentary activity in this field can consult the series of acts in any law library. It is useful only to cite them here.

The act of 1890, however, dealing as it does comprehensively with the whole problem as presented to the legislature of Great Britain at the time, I venture to append, omitting provisions merely local (outside of London) or of only special application, as well as all minor provisions, schedules, and forms.

AN ACT TO CONSOLIDATE AND AMEND THE ACTS RELATING TO ARTISANS' AND LABORERS' DWELLINGS AND THE HOUSING OF THE WORKING CLASSES.

PART I.—UNHEALTHY AREAS.

Scheme by local authority.

Where an official representation as hereinafter mentioned is made to the local authority that within a certain area in the district of such authority either (1) any houses, courts, or alleys are unfit for human habitation, or (2) the narrowness, closeness, and bad arrangement, or the bad condition of the streets and houses or groups of houses within such area, or the want of light, air, ventilation, or proper conveniences, or any other sanitary defects, or one or more of such causes are dangerous or injurious to the health of the inhabitants either of the buildings in said area or of the neighboring buildings, and that the evils connected with such houses, courts, or alleys, and the sanitary defects in such area can not be effectually remedied otherwise than by an improvement scheme for the rearrangement and reconstruction of the streets and houses within such area, or of some of such streets or houses, the local authority shall take such representation into their consideration, and if satisfied of the truth thereof, and of the sufficiency of their resources, shall pass a resolution to the effect that such area is an unhealthy area, and that an improvement scheme ought to be made in respect of such area, and, after passing such resolution, they shall forthwith proceed to make a scheme for the improvement of such area. Provided always, that any number of such areas may be included in one improvement scheme.

An official representation for the purposes of this part of this act shall mean a representation made to the local authority by the medical officer of health of that authority, and in London made either by such officer or by any medical officer of health in London.

A medical officer of health shall make such representation whenever he sees cause to make the same; and if two or more justices of the peace acting within the district for which he acts as medical officer of health or twelve or more persons liable to be rated to the local rate complain to him of the unhealthiness of any area within such district, it shall be the duty of the medical officer of health forthwith to inspect such area, and to make an official

* Filed in Bureau of Statistics, Department of State.

representation stating the facts of the case, and whether, in his opinion, the said area or any part thereof is an unhealthy area or is not an unhealthy area.

The improvement scheme of a local authority shall be accompanied by maps, particulars, and estimates, and (1) may exclude any part of the area in respect of which an official representation is made, or include any neighboring lands, if the local authority are of opinion that such exclusion is expedient or inclusion is necessary for making their scheme efficient for sanitary purposes; and (2) may provide for widening any existing approaches to the unhealthy area or otherwise for opening out the same for the purposes of ventilation or health; and (3) shall provide such dwelling accommodation, if any, for the working classes displaced by the scheme as is required to comply with this act; and (4) shall provide for proper sanitary arrangements.

The scheme shall distinguish the lands proposed to be taken compulsorily.

The scheme may also provide for the scheme or any part thereof being carried out and effected by the person entitled to the first estate of freehold in any property comprised in the scheme or with the concurrence of such person, under the superintendence and control of the local authority, and upon such terms and conditions to be embodied in the scheme as may be agreed upon between the local authority and such person.

Confirmation of scheme.

Upon the completion of an improvement scheme the local authority shall—

(1) Publish, during three consecutive weeks in the month of September, or October, or November, in some one and the same newspaper circulating within the district of the local authority, an advertisement stating the fact of a scheme having been made, the limits of the area comprised therein, and naming a place within such area or in the vicinity thereof where a copy of the scheme may be seen at all reasonable hours.

(2) During the month next following the month in which such advertisement is published serve a notice on every owner or reputed owner, lessee or reputed lessee, and occupier of any lands proposed to be taken compulsorily, so far as such persons can reasonably be ascertained, stating that such lands are proposed to be taken compulsorily for the purpose of an improvement scheme, and in the case of any owner or reputed owner, lessee or reputed lessee, requiring an answer stating whether the person so served dissents or not in respect of taking such lands.

(3) Such notice shall be served (*a*) by delivery of the same personally to the person required to be served, or if such person is absent abroad, or can not be found, to his agent, or if no agent can be found, then by leaving the same on the premises; or, (*b*) by leaving the same at the usual or last-known place of abode of such person as aforesaid; or (*c*) by post addressed to the usual or last-known place of abode of such person.

(4) One notice addressed to the occupier or occupiers without naming him or them, and left at any house, shall be deemed to be a notice served on the occupier or on all the occupiers of any such house.

Upon compliance with the foregoing provisions with respect to the publication of an advertisement and the service of notices, the local authority shall present a petition, if it relates to any part of the county or city of London, to a Secretary of State, and if it relates to any other place, to the local government board, praying that an order may be made confirming such scheme.

The petition shall be accompanied by a copy of the scheme, and shall state the names of the owners or reputed owners, lessees or reputed lessees, who have dissented in respect of the taking of their lands, and shall be supported by such evidence as the Secretary of State or local government board, according to the circumstances of the case (in this part of this act referred to as the confirming authority), may from time to time require.

If, on consideration of the petition and on proof of the publication of the proper advertisements and the service of the proper notices, the confirming authority think fit to proceed with the case, they shall direct a local inquiry to be held in, or in the vicinity of, the area comprised in the scheme, for the purpose of ascertaining the correctness of the official repre-

sentation made as to the area and the sufficiency of the scheme provided for its improvement, and any local objections to be made to such scheme.

After receiving the report made upon such inquiry, the confirming authority may make a provisional order declaring the limits of the area comprised in the scheme and authorizing such scheme to be carried into execution.

Such provisional order may be made either absolutely or with such conditions and modifications of the scheme as the confirming authority may think fit, so that no addition be made to the lands proposed in the scheme to be taken compulsorily, and it shall be the duty of the local authority to serve a copy of any provisional order so made in the manner and upon the persons in which and upon whom notices in respect of lands proposed to be taken compulsorily are required by this part of this act to be served, except tenants for a month or a less period than a month.

A provisional order made in pursuance of this section shall not be of any validity unless and until it has been confirmed by act of Parliament; and it shall be lawful for the confirming authority, as soon as conveniently may be, to obtain such confirmation, and any act confirming any provisional order made in pursuance of this part of this act, with such modifications as may seem fit to Parliament, shall be a public general act of Parliament, and is in this part of this act referred to as the confirming act.

The confirming authority may make such order as they think fit in favor of any person whose lands were proposed by the scheme to be taken compulsorily for the allowance of the reasonable costs, charges, and expenses properly incurred by him in opposing such scheme.

All costs, charges, and expenses incurred by the confirming authority in relation to any provisional order under this part of this act shall, to such amount as the confirming authority think proper to direct, and all costs, charges, and expenses of any person to such amount as may be allowed to him by the confirming authority in pursuance of the aforesaid power, shall be deemed to be an expense incurred by the local authority under this part of this act, and shall be paid to the confirming authority and to such person, respectively, in such manner and at such times and either in one sum or by installments as the confirming authority may order, with power for the confirming authority to direct interest to be paid at such rate not exceeding £5 in the £100 by the year, as the confirming authority may determine, upon any sum for the time being due in respect of such costs, charges, and expenses as aforesaid.

Any order made by the confirming authority in pursuance of this section may be made a rule of a superior court and be enforced accordingly.

Where any bill for confirming a provisional order authorizing an improvement scheme is referred to a committee of either House of Parliament upon the petition of any person opposing such bill, the committee shall take into consideration the circumstances under which such opposition is made to the bill, and whether such opposition was or was not justified by such circumstances, and shall award costs accordingly to be paid by the promoters or the opponents of the bill as the committee may think just.

When an official representation is made to the local authority with a view to their passing a resolution in favor of an improvement scheme, and they fail to pass any resolution in relation to such representation, or pass a resolution to the effect that they will not proceed with such scheme, the local authority shall, as soon as possible, send a copy of the official representation, accompanied by their reasons for not acting upon it, to the confirming authority, and upon the receipt thereof, the confirming authority may direct a local inquiry to be held, and a report to be made to them with respect to the correctness of the official representation made to the local authority, and any matters connected therewith on which the confirming authority may desire to be informed.

Provision of dwelling accommodation for working classes displaced by scheme.

Subject as hereinafter mentioned, every scheme comprising an area in the county or city of London shall provide for the accommodation of at least as many persons of the working class as may be displaced in the area comprised therein, in suitable dwellings, which, unless

there are any special reasons to the contrary, shall be situate within the limits of the same area or in the vicinity thereof. Provided that (1) where it is proved to the satisfaction of the confirming authority on an application to authorize a scheme that equally convenient accommodation can be provided for any persons of the working classes displaced by the scheme at some place other than within the area or the immediate vicinity of the area comprised in the scheme, and that the required accommodation has been or is about to be forthwith provided, either by the local authority or by any other person or body of persons, the confirming authority may authorize such scheme, and the requirements of this section with respect to providing accommodation for persons of the working class shall be deemed to have been complied with to the extent to which accommodation is so provided; and (2) where the local authority apply for a dispensation under this section, and the officer conducting the local inquiry directed by the confirming authority reports that it is expedient, having regard to the special circumstances of the locality and to the number of artisans and others belonging to the working class dwelling within the area, and being employed within a mile thereof, that a modification should be made, the confirming authority, without prejudice to any other powers conferred on it by this part of this act may, in the provisional order authorizing the scheme, dispense altogether with the obligation of the local authority to provide for the accommodation of the persons of the working class who may be displaced by the scheme to such extent as the confirming authority may think expedient, having regard to such special circumstances as aforesaid, but not exceeding one-half of the persons so displaced.

Where a scheme comprises an area situate elsewhere than in the county or city of London, it shall, if the confirming authority so require (but it shall not otherwise be obligatory on the local authority so to frame their scheme), provide for the accommodation of such number of those persons of the working classes displaced in the area with respect to which the scheme is proposed in suitable dwellings to be erected in such place or places either within or without the limits of the same area as the said authority on a report made by the officer conducting the local inquiry may require.

Execution of scheme by local authority.

When the confirming act authorizing any improvement scheme of a local authority under this part of this act has been passed by Parliament, it shall be the duty of that authority to take steps for purchasing the lands required for the scheme, and otherwise for carrying the scheme into execution as soon as practicable.

They may sell or let all or any part of the area comprised in the scheme to any purchasers or lessees for the purpose and under the condition that such purchasers or lessees will, as respects the land so purchased by or leased to them, carry the scheme into execution; and in particular they may insert in any grant or lease of any part of the area provisions binding the grantee or lessee to build thereon as in the grant or lease prescribed, and to maintain and repair the buildings, and prohibiting the division of buildings, and any addition to or alteration of the character of buildings without the consent of the local authority, and for the revesting of the land in the local authority, or their reentry thereon, on breach of any provision in the grant or lease.

The local authority may also engage with any body of trustees, society, or person, to carry the whole or any part of such scheme into effect upon such terms as the local authority may think expedient, but the local authority shall not themselves, without the express approval of the confirming authority, undertake the rebuilding of the houses or the execution of any part of the scheme, except that they may take down any or all of the buildings upon the area, and clear the whole or any part thereof, and may lay out, form, pave, sewer, and complete all such streets upon the land purchased by them as they may think fit, and all streets so laid out and completed shall thenceforth be public streets, repairable by the same authority as other streets in the district.

Provided that in any grant or lease of any part of the area which may be appropriated by the scheme for the erection of dwellings for the working classes the local authority shall im-

pose suitable conditions and restrictions as to the elevation, size, and design of the houses, and the extent of the accommodation to be afforded thereby, and shall make due provision for the maintenance of proper sanitary arrangements.

If the local authority erect any dwellings out of funds to be provided under this part of this act, they shall, unless the confirming authority otherwise determine, sell and dispose of all such dwellings within ten years from the time of the completion thereof.

The local authority may, where they think it expedient so to do, without themselves acquiring the land, or after or subject to their acquiring any part thereof, contract with the person entitled to the first estate of freehold in any land comprised in an improvement scheme for the carrying of the scheme into effect by him in respect of such land.

If, within five years after the removal of any buildings on the land set aside by any scheme authorized by a confirming act as sites for workingmen's dwellings, the local authority have failed to sell or let such land for the purposes prescribed by the scheme, or have failed to make arrangements for the erection of the said dwellings, the confirming authority may order the said land to be sold by public auction or public tender, with full power to fix a reserve price, subject to the conditions imposed by the scheme, and to any modifications thereof which may be made in pursuance of this part of this act, and to a special condition on the part of the purchaser to erect upon the said land dwellings for the working classes, in accordance with plans to be approved by the local authority, and subject to such other reservations and regulations as the confirming authority may deem necessary.

The local authority shall, not less than thirteen weeks before taking any fifteen houses or more, make known their intention to take the same by placards, handbills, or other general notices placed in public view upon or within a reasonable distance of such houses, and the local authority shall not take any such houses until they have obtained a certificate of a justice of the peace that it has been proved to his satisfaction that the local authority have made known, in manner required by this section, their intention to take such houses.

The confirming authority, on application from the local authority, and on its being proved to their satisfaction that an improvement can be made in the details of any scheme authorized by a confirming act, may permit the local authority to modify any part of their improvement scheme which it may appear inexpedient to carry into execution, but any part of the scheme respecting the provision of dwelling accommodation for persons of the working class, when so modified, shall be such as might have been inserted in the original scheme.

A statement of any modifications permitted to be made in any part of an improvement scheme in pursuance of this section shall be laid by the confirming authority before both houses of Parliament as soon as practicable after the permission is given, if Parliament be then sitting, and if not, within one month after the next meeting of Parliament.

Provided always, that if such modification requires a larger public expenditure than that sanctioned by the former scheme, or the taking of any property otherwise than by agreement, or affects injuriously other property in a manner different to that proposed in the former scheme without the consent of the owner and occupier of any such property, the modification must be made by a provisional order to be confirmed by act of Parliament in the manner provided by this part of this act on the completion of an improvement scheme.

Inquiries with respect to unhealthy areas.

Where, in any district, twelve or more ratepayers have complained to a medical officer of health of the unhealthiness of any area within that district, and the medical officer of health has failed to inspect such area, or to make an official representation with respect thereto, or has made an official representation to the effect that in his opinion the area is not an unhealthy area, such ratepayers may appeal to the confirming authority, and, upon their giving security to the satisfaction of that authority for costs, the confirming authority shall appoint a legally qualified medical practitioner to inspect such area, and to make representation to the confirming authority, stating the facts of the case, and whether, in his opinion, the area, or any part thereof is or is not an unhealthy area. The representation so made shall be transmitted by

the confirming authority to the local authority, and if it states that the area is an unhealthy area, the local authority shall proceed therein in the same manner as if it were an official representation made to that authority.

The confirming authority shall make such order as to the costs of the inquiry as they think just, with power to require the whole or any part of such costs to be paid by the appellants where the medical practitioner appointed is of opinion that the area is not an unhealthy area, and to declare the whole or any part of such costs to be payable by the local authority where he is of opinion that the area or any part thereof is an unhealthy area.

Any order made by the confirming authority in pursuance of this section may be made a rule of a superior court, and be enforced accordingly.

Where a local inquiry is directed, an officer shall be sent by the confirming authority to the area to which such inquiry relates for the purpose of making an inquiry into the correctness of the official representation made to the local authority as to such area being an unhealthy area, and into the sufficiency of the scheme provided for its improvement, and into any local objections to be made to such scheme, and to any other matter into which he is directed by this act or the confirming authority to inquire for the purposes of this act.

Before commencing such inquiry, the officer appointed to conduct the same shall make public by advertisement or otherwise in such manner as he thinks best calculated to give information to the persons residing in the area his intention to make such inquiry, and a statement of a time and place at which he will be prepared to hear all persons desirous of being heard before him upon the subject of the inquiry.

The officer conducting such inquiry shall have power to administer an oath; he shall report the result of the inquiry to the confirming authority, who shall deal with such report in such manner as they think expedient.

Acquisition of land.

The clauses of the lands clauses acts, with respect to the purchase and taking of lands otherwise than by agreement shall not, except to the extent set forth in the second schedule to this act, apply to any lands taken in pursuance of this part of this act, but save as aforesaid the said lands clauses acts, as amended by the provisions contained in the said schedule, shall regulate and apply to the purchase and taking of lands, and shall for that purpose be deemed to form part of this act in the same manner as if they were enacted in the body thereof; subject to the provisions of this part of this act and to the provisions following, that is to say, (1) this part of this act shall authorize the taking by agreement of any lands which the local authority may require for the purpose of carrying into effect the scheme authorized by any confirming act, but it shall authorize the taking by the exercise of any compulsory powers of such lands only as are proposed by the scheme in the confirming act to be taken compulsorily; (2) in the construction of the lands clauses acts, and the provisions in the second schedule to this act, this part of this act shall be deemed to be the special act, and the local authority shall be deemed to be the promoters of the undertaking; and the period after which the powers for the compulsory purchase or taking of lands shall not be exercised shall be three years after the passing of the confirming act.

Whenever the compensation payable in respect to any lands or of any interests in any lands proposed to be taken compulsorily in pursuance of this part of this act requires to be assessed, (1) the estimate of the value of such lands or interests shall be based upon the fair market value, as estimated at the time of the valuation being made of such lands, and of the several interests in such lands, due regard being had to the nature and then condition of the property, and the probable duration of the buildings in their existing state, and to the state of repair thereof, without any additional allowance in respect of the compulsory purchase of an area or of any part of an area in respect of which an official representation has been made, or of any lands included in a scheme which, in the opinion of the arbitrator, have been so included as falling under the description of property which may be constituted an unhealthy area under this

part of this act; and (2) in such estimate any addition to or improvement of the property made after the date of the publication in pursuance of this part of this act of an advertisement stating the fact of the improvement scheme having been made shall not (unless such addition or improvement was necessary for the maintenance of the property in a proper state of repair) be included, nor in the case of any interest acquired after the said date shall any separate estimate of the value thereof be made so as to increase the amount of compensation to be paid for the lands.

On the occasion of assessing the compensation payable under any improvement scheme in respect of any house or premises situate within an unhealthy area evidence shall be receivable by the arbitrator to prove (1) that the rental of the house or premises was enhanced by reason of the same being used for illegal purposes or being so overcrowded as to be dangerous or injurious to the health of the inmates; or (2) that the house or premises are in such a condition as to be a nuisance within the meaning of the acts relating to nuisances, or are in a state of defective sanitation, or are not in reasonably good repair; or (3) that the house or premises are unfit, and not reasonably capable of being made fit, for human habitation; and, if the arbitrator is satisfied by such evidence, then the compensation (*a*) shall, in the first case, so far as it is based on rental, be based on the rental which would have been obtainable if the house or premises were occupied for legal purposes and only by the number of persons whom the house or premises were under all the circumstances of the case fitted to accommodate without such overcrowding as is dangerous or injurious to the health of the inmates; and (*b*) shall in the second case be the amount estimated as the value of the house or premises if the nuisance had been abated, or if they had been put into a sanitary condition, or into reasonably good repair, after deducting the estimated expense of abating the nuisance, or putting them into such condition or repair, as the case may be; and (*c*) shall in the third case be the value of the land, and of the materials of the buildings thereon.

Upon the purchase by the local authority of any lands required for the purpose of carrying into effect any scheme, all rights of way, rights of laying down or of continuing any pipes, sewers, or drains on, through, or under such lands, or part thereof, and all other rights or easements in or relating to such lands, or any part thereof, shall be extinguished, and all the soil of such ways, and the property in the pipes, sewers, or drains, shall vest in the local authority, subject to this provision, that compensation shall be paid by the local authority to any persons or bodies of persons proved to have sustained loss by this section, and such compensation shall be determined in the manner in which compensation for lands is determinable under this part of this act, or as near thereto as circumstances admit.

A local authority may, for the purpose of providing accommodation for persons of the working classes displaced by any improvement scheme, appropriate any lands for the time being belonging to them which are suitable for the purpose, or may purchase by agreement any such further lands as may be convenient.

Expenses.

The receipts of a local authority under this part of this act shall form a fund (in this act referred to as "the dwelling-house improvement fund"), and their expenditure shall be defrayed out of such fund.

The moneys required in the first instance to establish such fund, and any deficiency for the purposes of this part of this act from time to time appearing in such fund by reason of the excess of expenditure over receipts, shall be supplied out of the local rates or out of moneys borrowed in pursuance of this act.

In settling any accounts of the local authority in respect of any transactions under this part of this act, care shall be taken that as far as may be practicable all expenditure shall ultimately be defrayed out of the property dealt with under this part of this act; and any balances of profit made by the local authority under this part of this act shall be applicable to any purposes to which the local rate is for the time being applicable.

Any limit imposed on or in respect of local rates by any other act of Parliament shall not apply to any rate required to be levied for the purpose of defraying any expenses under this part of this act.

The local authority may carry to the account of the dwelling-house improvement fund any such money or produce of any property, as is legally applicable to purposes similar to the purposes of this part of this act; and in case of doubt as to whether, in any particular case, the purposes are so similar the confirming authority may decide such doubt, and such decision shall be conclusive.

A local authority may, in manner in this section mentioned, borrow such money as is required for the purposes of this part of this act on the security of the local rate.

For the purpose of such borrowing, the London county council may, with the assent of the Treasury, create consolidated stock under the metropolitan board of works loans acts, 1869 to 1871, but all moneys required for the payment of the dividends on and the redemption of the consolidated stock created for the purposes of this part of this act shall be charged to the special county account to which the expenditure for the purposes of this part of this act is chargeable.

For the purpose of such borrowing, the commissioners of sewers for the city of London may borrow and take up at interest such money on the credit of the local rates, or any of them, as they may require for the purposes of this part of this act, and may mortgage any such rate or rates to the persons by or on behalf of whom such money is advanced for securing the repayment to them of the sums borrowed, with interest thereon, and for the purposes of any mortgages so made by the commissioners of sewers, the clauses of the commissioners clauses act, 1847, with respect to the mortgages to be executed by the commissioners shall be incorporated with this part of this act; and in the construction of that act "the special act" shall mean this part of this act; "the commissioners" shall mean the commissioners of sewers; "the clerk of the commissioners" shall include any officer appointed for the purpose by the commissioners of sewers by this part of this act; and the mortgagees or assignees of any mortgage made as last aforesaid may enforce payment of the arrears of principal and interest due to them by the appointment of a receiver.

For the purpose of such borrowing, the urban sanitary authority shall have the same power of borrowing as they have under the public health acts for the purpose of defraying any expenses incurred by them in the execution of those acts.

The public works loan commissioners may, on the recommendation of the confirming authority, lend to any local authority any money required by them for purposes of this part of this act, on the security of the local rate. Such loan shall be repaid within such period, not exceeding fifty years, as may be recommended by the confirming authority.

The confirming authority may, on the consideration of any petition of a local authority for an order confirming a scheme, dispense with the publication of any advertisement, or the service of any notice, proof of which publication or service is not given to them as required by this part of this act, where reasonable cause is shown to their satisfaction why such publication or service should be dispensed with, and such dispensation may be made by the confirming authority, either unconditionally or upon such condition as to the publication of other advertisements and the service of other notices or otherwise as the confirming authority may think fit, due care being taken by the confirming authority to prevent the interest of any person being prejudiced by the fact of the publication of any advertisement or the service of any notice being dispensed with in pursuance of this section.

PART II.—UNHEALTHY DWELLING HOUSES.

Preliminary.

In this part of this act, unless the context otherwise requires, the expression "street" includes any court, alley, street, square, or row of houses; the expression "dwelling house" means any inhabited building, and includes any yard, garden, outhouses, and appurtenances

belonging thereto or usually enjoyed therewith, and includes the site of the dwelling house as so defined; the expression "owner," in addition to the definition given by the land clauses act, includes all lessees or mortgagees of any premises required to be dealt with under this part of this act, except persons holding or entitled to the rents and profits of such premises for a term of years, of which twenty-one years do not remain unexpired; the expression "closing order" means an order prohibiting the use of premises for human habitation made under the enactments set out in the third schedule in this act.

Buildings unfit for human habitation.

It shall be the duty of the medical officer of health of every district to represent to the local authority of that district any dwelling house which appears to him to be in a state so dangerous or injurious to health as to be unfit for human habitation.

If in any district any four or more householders living in or near to any street complain in writing to the medical officer of health of that district that any dwelling house in or near that street is in a condition so dangerous or injurious to health as to be unfit for human habitation, he shall forthwith inspect the same, and transmit to the local authority the said complaint, together with his opinion thereon, and if he is of opinion that the dwelling house is in the condition aforesaid, shall represent the same to the local authority, but the absence of any such complaint shall not excuse him from inspecting any dwelling house and making a representation thereon to the local authority.

If within three months after receiving the said complaint and opinion or representation of the medical officer, the local authority, not being in the administrative county of London, or not being a rural sanitary authority in any other county, declines or neglects to take any proceedings to put this part of this act in force, the householders who signed such complaint may petition the local government board for an inquiry, and the said board, after causing an inquiry to be held, may order the local authority to proceed under this part of this act, and such order shall be binding on the local authority.

Closing order and demolition.

It shall be the duty of every local authority to cause to be made from time to time inspection of their district, with a view to ascertain whether any dwelling house therein is in a state so dangerous or injurious to health as to be unfit for human habitation, and, if on the representation of the medical officer, or any officer of such authority, or information given, any dwelling house appears to them to be in such state, to forthwith take proceedings against the owner or occupier for closing the dwelling house under the enactments set out in the third schedule to this act.

Any such proceedings may be taken for the express purpose of causing the dwelling house to be closed whether the same be occupied or not, and upon such proceedings the court of summary jurisdiction may impose a penalty not exceeding £20, and make a closing order, and the forms for the purposes of this section may be those in the fourth schedule to this act, or to the like effect, and the enactments respecting an appeal from a closing order shall apply to the imposition of such penalty as well as to a closing order.

Where a closing order has been made as respects any dwelling house, the local authority shall serve notice of the order on every occupying tenant of the dwelling house, and within such period as is specified in the notice, not being less than seven days after the service of the notice, the order shall be obeyed by him, and he and his family shall cease to inhabit the dwelling house, and in default he shall be liable to a penalty not exceeding 20s. a day during his disobedience to the order; provided, that the local authority may make to every such tenant such reasonable allowance on account of his expenses in removing as may have been authorized by the court making the closing order, which authority the court is hereby authorized to give, and the amount of the said allowance shall be a civil debt due from the owner of the dwelling house to the local authority, and shall be recoverable summarily.

Where a closing order has been made in respect of any dwelling house, and not been determined by a subsequent order, then the local authority, if of opinion that the dwelling house has not been rendered fit for human habitation, and that the necessary steps are not being taken with all due diligence to render it so fit, and that the continuance of any building being or being part of the dwelling house is dangerous or injurious to the health of the public or of the inhabitants of the neighboring dwelling houses, shall pass a resolution that it is expedient to order the demolition of the building.

The local authority shall cause notice of such resolution to be served on the owner of the dwelling house, and such notice shall specify the time and place appointed by the local authority for the further consideration of the resolution, not being less than one month after the service of the notice, and any owner of the dwelling house shall be at liberty to attend and state his objections to the demolition.

If upon the consideration of the resolution and the objections the local authority decide that it is expedient so to do, then unless an owner undertakes to execute forthwith the works necessary to render the dwelling house fit for human habitation, the local authority shall order the demolition of the building.

If an owner undertakes as aforesaid to execute the said works, the local authority may order the execution of the works within such reasonable time as is specified in the order, and if the works are not completed within that time or any extended time allowed by the local authority or a court of summary jurisdiction, the local authority shall order the demolition of the building.

Where an order for the demolition of a building has been made, the owner thereof shall, within three months after service of the order, proceed to take down and remove the building, and if the owner fails therein the local authority shall proceed to take down and remove the building and shall sell the materials, and after deducting the expenses incident to such taking down and removal, pay over the balance of money (if any) to the owner.

Where a building has been so taken down and removed, no house or other building or erection which will be dangerous or injurious to health shall be erected on all or any part of the site of such building; and if any house, building, or erection is erected contrary to the provisions of this section, the local authority may at any time order the owner thereof to abate the same, and in the event of noncompliance with the order, may, at the expense of the owner, abate or alter the same.

Any person aggrieved by an order of the local authority under this part of this act may appeal against the same to a court of quarter sessions, and no work shall be done nor proceedings taken under any order until after the appeal is determined or ceases to be prosecuted; and section 31 of the summary jurisdiction act, 1879, respecting appeals from courts of summary jurisdiction to courts of quarter sessions shall apply with the necessary modifications as if the order of the local authority were an order of a court of summary jurisdiction; provided that (1) notice of appeal may be given within one month after notice of the order of the local authority has been served on such person; (2) the court shall, at the request of either party, state the facts specially for the determination of a superior court, in which case the proceedings may be removed into that court.

Where any owner has completed in respect of any dwelling house any works required to be executed by an order of a local authority under this part of this act, he may apply to the local authority for a changing order, and shall produce to the local authority the certificate of their surveyor or engineer that the works have been executed to his satisfaction, and also the accounts of and vouchers for the costs, charges, and expenses of the works, and the local authority, when satisfied that the owner has duly executed such works and of the amount of such costs, charges, and expenses, and of the costs of obtaining the charging order which have been properly incurred, shall make an order accordingly, charging on the dwelling house annuity to repay the amount.

The annuity charged shall be a sum of £6 for every £100 of the said amount and so in proportion for any less sum, and shall commence from the date of the order, and be payable

for a term of thirty years to the owner named in such order, his executors, administrators, or assigns.

Every such annuity may be recovered by the person for the time being entitled to it by the same means and in the like manner in all respects as if it were a rent charge granted by deed out of the dwelling house by the owner thereof.

Every charge created by a charging order under this part of this act shall be a charge on the dwelling house specified in the order, having priority over all existing and future estates, interests, and incumbrances, with the exception of quitrents and other charges incident to tenure, tithe commutation rent charge, and any charge created under any act authorizing advances of public money; and where more charges than one are charged under this part of this act on any dwelling house such charges shall, as between themselves, take order according to their respective dates.

Obstructive buildings.

If a medical officer of health finds that any building within his district, although not in itself unfit for human habitation, is so situate that by reason of its proximity to or contact with any other buildings it causes one of the following effects, that is to say, (1) it stops ventilation, or otherwise makes or conduces to make such other buildings to be in a condition unfit for human habitation or dangerous or injurious to health; or (2) it prevents proper measures from being carried into effect for remedying any nuisance injurious to health or other evils complained of in respect to such other buildings; in any such case, the medical officer of health shall represent to the local authority the particulars relating to such first-mentioned building (in this act referred to as "an obstructive building") stating that in his opinion it is expedient that the obstructive building should be pulled down.

Any four or more inhabitant householders of a district may make to the local authority of the district a representation as respects any building to the like effect as that of the medical officer under this section.

The local authority, on receiving any such representation as above in this section mentioned, shall cause a report to be made to them respecting the circumstances of the building and the cost of pulling down the building and acquiring the land, and on receiving such report shall take into consideration the representation and report, and if they decide to proceed, shall cause a copy of both the representation and report to be given to the owner of the lands on which the obstructive building stands, with notice of the time and place appointed by the local authority for the consideration thereof, and such owner shall be at liberty to attend and state his objections, and after hearing such objections the local authority shall make an order either allowing the objection or directing that such obstructive building shall be pulled down, and such order shall be subject to appeal in like manner as an order of demolition of the local authority under the foregoing provisions of this part of this act.

Where an order of the local authority for pulling down an obstructive building is made under this section and either no appeal is made against the order, or an appeal is made and either fails or is abandoned, the local authority shall be authorized to purchase the lands on which the obstructive building is erected in like manner as if they had been authorized by a special act to purchase the same; and for the purpose of such purchase the provisions of the lands clauses acts, with respect to the purchase and taking of lands otherwise than by agreement shall be deemed to be incorporated in this part of this act (subject nevertheless to the provisions of this part of this act), and for the purpose of the provisions of the lands clauses acts this part of this act shall be deemed to be the special act, and the local authority to be the promoters of the undertaking, and such lands may be purchased at any time within one year after the date of the order, or if it was appealed against after the date of the confirmation.

The owner of the lands may, within one month after notice to purchase the same is served upon him, declare that he desires to retain the site of the obstructive building and undertake either to pull down or to permit the local authority to pull down the obstructive building, and

in such case the owner shall retain the site and shall receive compensation from the local authority for the pulling down of the obstructive building.

The amount of such compensation, and also the amount of any compensation to be paid on the purchase of any lands under this section, shall in case of difference be settled by arbitration in manner provided in this part of this act.

Where the local authority is empowered to purchase land compulsorily, it shall not be competent for the owner of a house or manufactory to insist on his entire holding being taken, where part only is proposed to be taken as obstructive, and where such part proposed to be taken can, in the opinion of the arbitrator to whom the question of disputed compensation is submitted, be severed from the remainder of the house or manufactory without material detriment thereto, provided that compensation may be awarded in respect of the severance of the part so proposed to be taken in addition to the value of that part.

Where, in the opinion of the arbitrator, the demolition of an obstructive building adds to the value of such other buildings as are in that behalf mentioned in this section, the arbitrator shall apportion so much of the compensation to be paid for the demolition of the obstructive building as may be equal to the increase in value of the other buildings among such other buildings respectively, and the amount apportioned to each such other building in respect of its increase in value by reason of the demolition of such obstructive building shall be deemed to be private improvement expenses incurred by the local authority in respect of such building, and such local authority may, for the purpose of defraying such expenses, make and levy improvement rates on the occupier of such premises accordingly; and the provisions of the public health acts relating to private improvement expenses and to private improvement rates shall, so far as circumstances admit, apply accordingly in the same manner as if such provisions were incorporated in this act.

If any dispute arises between the owner or occupier of any building (to which any amount may be apportioned in respect of private improvement expenses) and the arbitrator by whom such apportionment is made, such dispute shall be settled by two justices in manner provided by the lands clauses acts, in cases where the compensation claimed in respect of lands does not exceed £50.

Where the owner retains the site or any part thereof, no house or other building or erection which will be dangerous or injurious to health, or which will be an obstructive building within the meaning of this section, shall be erected upon such site or any part thereof; and if any house, building, or erection is erected on the site contrary to the provisions of this section the local authority may at any time order the owner to abate or alter the said house, building, or erection; and in the event of noncompliance with such order may, at the expense of the owner thereof, abate or alter the same.

Where the lands are purchased by the local authority, the local authority shall pull down the obstructive building, or such part thereof as may be obstructive within the meaning of this section, and keep as an open space the whole site, or such part thereof as may be required to be kept open for the purpose of remedying the nuisance or other evils caused by such obstructive building, and may, with the assent of the local government board, and upon such terms as that board think expedient, sell such portion of the site as is not required for the purpose of carrying this section into effect.

A local authority may, where they so think fit, dedicate any land acquired by them under the authority of this section as a highway or other public place.

Scheme for reconstruction.

In any of the following cases, that is to say, (1) where an order for the demolition of a building has been made in pursuance of this part of this act, and it appears to the local authority that it would be beneficial to the health of the inhabitants of the neighboring dwelling houses if the area of the dwelling house of which such building forms part were used for all or any of the following purposes, that is to say, either (*a*) dedicated as a highway or open space, or (*b*) appropriated, sold, or let for the erection of dwellings for the working

classes, or (*c*) exchanged with other neighboring land which is more suitable for the erection of such dwellings, and on exchange will be appropriated, sold, or let for such erection; or (2) where it appears to the local authority that the closeness, narrowness, and bad arrangement or bad condition of any buildings, or the want of light, air, ventilation, or proper conveniences, or any other sanitary defect in any buildings is dangerous or prejudicial to the health of the inhabitants either of the said buildings or of the neighboring buildings, and that the demolition or the reconstruction and rearrangement of the said buildings or of some of them is necessary to remedy the said evils, and that the area comprising those buildings and the yards, outhouses, and appurtenances thereof, and the site thereof, is too small to be dealt with as an unhealthy area under Part I of this act, the local authority shall pass a resolution to the above effect and direct a scheme to be prepared for the improvement of the said area.

Notice of the scheme may at any time after the preparation thereof be served in manner provided in Part I of this act with respect to notices of lands proposed to be taken compulsorily under a scheme made in pursuance of that part of this act, on every owner or reputed owner, lessee or reputed lessee, and occupier of any part of the area comprised in the scheme, so far as those persons can reasonably be ascertained.

The local authority shall, after service of such notice, petition the local government board for an order sanctioning the scheme, and the board may cause a local inquiry to be held, and, if satisfied on the report of such local inquiry that the carrying into effect of the scheme either absolutely or subject to conditions or modifications would be beneficial to the health of the inhabitants of the said buildings or of the neighboring dwelling houses, may by order sanction the scheme with or without such conditions or modifications.

Upon such order being made, the local authority may purchase by agreement the area comprised in the scheme as so sanctioned, and if they agree for the purchase of the whole area, the order, save so far as it provides for the taking of land otherwise than by agreement, shall take effect without confirmation. If they do not so agree, the order shall be published by the local authority by inserting a notice thereof in the London Gazette, and by serving notice thereof on the owners of every part of the area.

Any owner may, within two months after such publication, petition the local government board against the order, and if such petition is presented and is not withdrawn, the order shall be provisional unless it is confirmed by act of Parliament.

If the local government board are satisfied that the order has been duly published, and that two months after such publication have expired, and that either a petition has not been presented, or if presented has been withdrawn, they shall confirm the order, and thereupon such order shall come into operation, and have effect as if it were enacted by this act.

The order may incorporate the provisions of the lands clauses acts, and for the purpose of those provisions this act shall be deemed to be the special act, and the local authority to be the promoters of the undertaking, and the area shall be acquired within three years after the date of the confirmation of the order; provided that the amount of compensation shall, in case of difference, be settled by arbitration in manner provided by this part of this act.

The provisions of Part I of this act relating to costs to be awarded in certain cases by a committee of either house of Parliament, to the duty of a local authority to carry a scheme when confirmed into execution, to the completion of a scheme on failure by a local authority, and to the extinction of rights of way and other easements shall, with the necessary modifications, apply for the purpose of any scheme under this section in like manner as if it were a scheme under Part I of this act.

The local government board, on being satisfied by the local authority that an improvement can be made in the details of any scheme under this section, may by order permit the local authority to modify any part of the scheme which it may appear inexpedient to carry into execution, provided that (1) if the order sanctioning the scheme was confirmed by Parliament, a statement of such modification shall be laid by the local government board before both Houses of Parliament as soon as practicable; and (2) in any case, if the modification requires a larger

expenditure than that sanctioned by the original scheme, or authorizes the taking of any property otherwise than by agreement, or injuriously affects any property in a manner different from that proposed in the original scheme, without the consent of the owner or occupier of such property, notice of the order authorizing the modification shall be published, and the order may be petitioned against and shall be subject to confirmation in like manner as if it were an order sanctioning an original scheme under this section.

The local government board shall in any order sanctioning a scheme under this part of this act require the insertion in the scheme of such provisions (if any) for the dwelling accommodation of persons of the working classes displaced by the scheme as seem to the board required by the circumstances.

Settlement of compensation.

In all cases in which the amount of any compensation is, in pursuance of this part of this act, to be settled by arbitration, the following provisions shall have effect, namely: The amount of compensation shall be settled by an arbitrator to be appointed and removable by the local government board.

In settling the amount of any compensation (1) the estimate of the value of the dwelling house shall be based on the fair market value as estimated at the time of the valuation being made of such dwelling house, and of the several interests in such dwelling house, due regard being had to the nature and then condition of the property and the probable duration of the buildings in their existing state, and to the state of repair thereof, and without any additional allowance in respect of compulsory purchase; and (2) the arbitrator shall have regard to and make an allowance in respect of any increased value which, in his opinion, will be given to other dwelling houses of the same owner by the alteration or demolition by the local authority of any buildings.

Evidence shall be receivable by the arbitrator to prove (1) that the rental of the dwelling house was enhanced by reason of the same being used for illegal purposes or being so overcrowded as to be dangerous or injurious to the health of the inmates; or (2) that the dwelling house is in a state of defective sanitation, or is not in reasonably good repair; or (3) that the dwelling house is unfit, and not reasonably capable of being made fit, for human habitation; and, if the arbitrator is satisfied by such evidence, then the compensation (*a*) shall in the first case, so far as it is based on rental, be based on the rental which would have been obtainable if the dwelling house was occupied for legal purposes and only by the number of persons whom the dwelling house was under all the circumstances of the case fitted to accommodate without such overcrowding as is dangerous or injurious to the health of the inmates; and (*b*) shall in the second case be the amount estimated as the value of the dwelling house if it had been put into a sanitary condition, or into reasonably good repair, after deducting the estimated expense of putting it into such condition or repair; and (*c*) shall in the third case be the value of the land, and of the materials of the building thereon.

On payment or tender to the person entitled to receive the same of the amount of compensation agreed or awarded to be paid in respect of the dwelling house, or on payment thereof in manner prescribed by the lands clauses acts, the owner shall, when required by the local authority, convey his interest in such dwelling house to them, or as they may direct; and in default thereof, or if the owner fails to adduce a good title to such dwelling house to the satisfaction of the local authority, it shall be lawful for the local authority, if they think fit, to execute a deed poll in such manner and with such consequences as are mentioned in the lands clauses acts.

The arbitrator may, by one award, settle the amount or amounts of compensation payable in respect of all or any of the dwelling houses included in one or more order or orders made by the local authority; but he may, and, if the local authority request him so to do, shall, from time to time make an award respecting a portion only of the disputed cases brought before him.

The arbitrator may, where he thinks fit, on the request of any party by whom any claim has been made before him, certify the amount of the costs properly incurred by such party in relation to the arbitration, and the amount of the costs so certified shall be paid by the local authority.

The arbitrator shall not give such certificate where the arbitrator has awarded the same or a less sum than has been offered by the local authority in respect of such claim before the appointment of the arbitrator, and need not give such certificate to any party where he considers that such party neglected, after due notice from the local authority, to deliver to that authority a statement in writing within such time, and containing such particulars respecting the compensation claimed, as would have enabled the local authority to make a proper offer of compensation to such party before the appointment of the arbitrator.

If within seven days after demand the amount so certified be not paid to the party entitled to receive the same, such amount shall be recoverable as a debt from the local authority, with interest at the rate of 5 per cent per annum for any time during which the same remains unpaid after such seven days as aforesaid.

The award of the arbitrator shall be final and binding on all parties.

Expenses and borrowing.

All expenses incurred by a local authority in the execution of this part of this act shall be defrayed by them out of the local rate; and that authority, notwithstanding any limit contained in any act of Parliament respecting a local rate, may levy such local rate, or any increase thereof, for the purposes of this part of this act.

Any expenses incurred by a rural sanitary authority under this part of this act, other than the expenses incurred in and incidental to proceedings for obtaining a closing order, shall be charged as special expenses on the contributory place in respect of which they are incurred.

A local authority may borrow for the purpose of raising sums required for purchase money or compensation payable under this part of this act in like manner, and subject to the like conditions, as for the purpose of defraying the expenses of the execution by such authority of the public health acts.

The public works loan commissioners may, if they think fit, lend to any local authority the sums borrowed in pursuance of this part of this act.

Every local authority shall every year present to the local government board, in such form as they may direct, an account of what has been done, and of all moneys received and paid by them during the previous year, with a view to carrying into effect the purposes of this part of this act.

Powers of county councils.

Where the medical officer of health or any inhabitant householders make a representation or complaint, or give information to any vestry or district board in the administrative county of London or to the local board of Woolwich, or to any rural sanitary authority elsewhere (which vestry, board, or authority is in this act referred to as the district authority), or to the medical officer of such authority either respecting any dwelling house being in a state so dangerous or injurious to health as to be unfit for human habitation, or respecting an obstructive building, and also where a closing order has been made as respects any dwelling house, the district authority shall forthwith forward to the county council of the county in which the dwelling house or building is situate, a copy of such representation, complaint, information, or closing order, and shall from time to time report to the council such particulars as the council require respecting any proceedings taken by the authority with reference to such representation, complaint, information, or dwelling house.

Where the county council (1) are of opinion that proceedings for a closing order as respects any dwelling house ought to be instituted, or that an order ought to be made for the demolition of any buildings forming or forming part of any dwelling house as to which a closing order has been made, or that an order ought to be made for pulling down an obstructive

building specified in any representation under this part of this act; and (2) after reasonable notice, not being less than one month, of such opinion has been given in writing to the district authority, consider that such authority have failed to institute or properly prosecute proceedings, or to make the order for demolition, or to take steps for pulling down an obstructive building, the council may pass a resolution to that effect, and thereupon the powers of the district authority as respects the said dwelling house and building under this part of this act (otherwise than in respect of a scheme) shall be vested in the county council, and if a closing order or an order for demolition or for pulling down an obstructive building is made, and not disallowed on appeal, the expenses of the council incurred as respects the said dwelling house and building, including any compensation paid, shall be a simple contract debt to the council from the district authority.

The county council and any of their officers shall, for the purposes of this section, have the same right of admission to any premises as any district authority or their officers have for the purpose of the execution of their duties under the enactments relating to public health, and a justice may make the like order for enforcing such admission.

Special provisions as to London.

This part of this act shall apply to the administrative county of London with the following modifications:

The provisions of the public health acts relating to private improvement expenses and to private improvement rates shall, for the purpose of this part of this act, extend to the county and to the city of London, and in the construction of the said provisions, as respects the county of London, any local authority in that county, and as respects the city of London the commissioners of sewers shall be deemed to be the urban authority.

The raising of sums required for purchase money or compensation payable under this part of this act shall be a purpose for which the London county council or the commissioners of sewers of the city of London may borrow under Part I of this act, and a purpose for which a vestry or district board may borrow under the metropolis management act, 1855, and the provisions of Part I of this act with respect to borrowing.

The London county council may, if they think fit, lend to a local authority in the administrative county of London the sums borrowed in pursuance of this part of this act.

Where it appears to the county council, whether in the exercise of the powers of a vestry or district board or on the representation of a vestry or district board or otherwise, that a scheme under this part of this act ought to be made, the council may take proceedings for preparing and obtaining the confirmation of a scheme, and the provisions of this act respecting the scheme shall apply in like manner as if they were the vestry or district board, and all expenses of and incidental to the scheme and carrying the same into effect shall, save as hereinafter mentioned, be borne by the county fund.

Where the council consider that such expenses, or a contribution in respect of them, ought to be paid or made by a vestry or district board, they may apply to a Secretary of State, and the Secretary of State, if satisfied that, having regard to the size of the area, to the number, position, structure, sanitary condition, and neighborhood of the buildings to be dealt with, the vestry or district board ought to pay, or make a contribution in respect of, the said expenses, the Secretary of State may order such payment or contribution to be made, and the amount thereof shall be a simple contract debt from the vestry or district board to the council.

The county council may, if they think fit, pay or contribute to the payment of the expenses of carrying into effect a scheme under this part of this act by a vestry or district board, and if a vestry or district board consider that the expenses of carrying into effect any scheme under this part of this act, or a contribution in respect of those expenses, ought to be paid or made by the county council, and the county council decline or fail to agree to pay or make the same, the vestry or district board may apply to a Secretary of State, and if the Secretary of State is satisfied that, having regard to the size of the area, to the number, position, structure, sanitary condition, and neighborhood of the buildings to be dealt with, the council ought

to pay or make a contribution in respect of the said expenses, he may order such payment or contribution to be made, and the amount thereof shall be a simple contract debt from the council to the vestry or district board.

Supplemental.

Where the owner of any dwelling house is not the person in receipt of the rents and profits thereof, he may give notice of such ownership to the local authority, and thereupon the local authority shall give such owner notice of any proceedings taken by them in pursuance of this part of this act in relation to such dwelling house.

If it appears to a court of summary jurisdiction on the application of any owner of the dwelling house that default is being made in the execution of any works required to be executed on any dwelling house in respect of which a closing order has been made, or in the demolition of any building or any dwelling house or in claiming to retain any site, in pursuance of this part of this act, and that the interests of the applicant will be prejudiced by such default, and that it is just to make the order, the court may make an order empowering the applicant forthwith to enter on the dwelling house, and within the time fixed by the order to execute the said works, or to demolish the building, or to claim to retain the site, as the case may be, and when it seems to the court just so to do, the court may make a like order in favor of any other owner.

A court of summary jurisdiction may, in any case, by order enlarge the time allowed under any order for the execution of any works or the demolition of a building, or the time within which a claim may be made to retain the site of a building. Before an order is made under this section notice of the application shall be given to the local authority.

Nothing in this part of this act shall prejudice or interfere with the right or remedies of any owner for the breach, nonobservance, or nonperformance of any covenant or contract entered into by a tenant or lessee in reference to any dwelling house in respect of which an order is made by a local authority under this part of this act; and if any owner is obliged to take possession of any dwelling house in order to comply with any such order, the taking possession shall not affect his right to avail himself of any such breach, nonobservance, or nonperformance that may have occurred prior to his to take possession.

When the owner of any dwelling house and his residence or place of business are known to the local authority, it shall be the duty of the clerk of the local authority, if the residence or place of business is within the district of such local authority, to serve any notice by this part of this act required to be served on the owner, by giving it to him, or for him, to some inmate of his residence or place of business within the district; and in any other case it shall be the duty of the clerk of the local authority to serve the notice by post in a registered letter addressed to the owner at his residence or place of business.

Where the owner of the dwelling house or his residence or place of business is not known to, and after diligent inquiry cannot be found by the local authority, then the clerk of the local authority may serve the notice by leaving it, addressed to the owner, with some occupier of the dwelling house, or if there be not an occupier, then by causing it to be put up on some conspicuous part of the dwelling house.

Notice served upon the agent of the owner shall be deemed notice to the owner.

Where in any proceedings under this part of this act it is necessary to refer to the owner of any dwelling house, it shall be sufficient to designate him as the "owner" thereof without name or further description.

If any person being the occupier of any dwelling house prevents the owner thereof, or being the owner or occupier of any dwelling house prevents the medical officer of health, or the officers, agents, servants, or workmen of such owner or officer from carrying into effect with respect to the dwelling house any of the provisions of this part of this act, after notice of the intention so to do has been given to such person, any court of summary jurisdiction on proof thereof may order such person to permit to be done on such premises all things requisite for carrying into effect, with respect to such dwelling house, the provisions of this part of this act.

If, at the expiration of ten days after the service of such order, such person fails to comply therewith, he shall for every day during which the failure continues be liable on summary conviction to a fine not exceeding £20; providing that if any such failure is by the occupier the owner, unless assenting thereto, shall not be liable to such fine.

A representation from the medical officer of health of any county submitted to the county council and forwarded by that council to the local authority of any district in the county, not being a borough as defined by the municipal corporations act, 1882, shall, for the purposes of this part of this act have the like effect as a representation from the medical officer of health of the district.

PART III.—WORKING-CLASS LODGING HOUSES.

Adoption of Part III.

The expression "lodging houses for the working classes," when used in this part of this act, shall include separate houses or cottages for the working classes, whether containing one or several tenements, and the purposes of this part of this act shall include the provision of such houses and cottages.

The expression "cottage" in this part of this act may include a garden of not more than half an acre, provided that the estimated annual value of such garden shall not exceed £3.

This part of this act may be adopted in the several districts mentioned in the first schedule to this act by the local authorities in that behalf in that schedule mentioned; provided that in the case of any rural sanitary district in England, the adoption shall be only after such certificate and such delay as hereinafter mentioned.

A rural sanitary authority in any district desiring to adopt this part of this act may apply to the county council of the county in which the area hereinafter mentioned is wholly or as to the larger part thereof in extent situate for the certificate required for such adoption, and shall specify in such application the area in which they consider that accommodation is necessary for the housing of the working classes, and thereupon the county council shall direct a local inquiry to be held by a member of the council or any officer or person appointed by the council for the purpose, and if after such local inquiry the person holding the inquiry certifies that accommodation is necessary in such area for the housing of the working classes, and that there is no probability that such accommodation will be provided without the execution of this part of this act, and that having regard to the liability which will be incurred by the rates, it is under all the circumstances prudent for the said authority to undertake the provision of the said accommodation under the powers of this part of this act, the county council may if they think fit, publish that certificate in one or more local newspapers circulating in the district, and thereupon the sanitary authority may adopt this part of this act. Provided that (1) unless the county council state in publishing such certificate, that by reason of the date of the next ordinary election of members of such authority or otherwise, an emergency renders it necessary to adopt this part of this act immediately, such adoption in pursuance of the certificate shall not take place before the ordinary election of members of such authority which is held next after the date of the local inquiry; and (2) after the end of twelve months from the date of the certificate, this part of this act shall not be adopted without a fresh certificate; and (3) no land shall be acquired, nor buildings erected under this part of this act outside of the area mentioned in the certificate except after a fresh application, inquiry, and certificate.

Where the rural sanitary authority think it just that the burden of the expenses of the execution of this part of this act should be borne by some contributory place or places only in their district, instead of by the whole of their district, the authority may in their application to the county council request permission to limit the burden of such expenses to such contributory place or places, and thereupon the justice of such limitation shall be inquired into at the local inquiry, and the county council, if satisfied after the local inquiry that the circumstances of the contributory place or places and of the rest of the district render such limitation just, may make an order to that effect, and thereupon the expenses of the execution of this

part of this act in the area mentioned in the order shall be borne by the contributory place or places named in the order instead of by the whole district. The provisions of this enactment with respect to the burden of the expenses shall apply upon every application for a fresh certificate.

Any expenses incurred by a county council in holding a local inquiry under this part of this act shall be a simple-contract debt to the council from the rural sanitary authority, and shall be defrayed as part of the expenses of such authority in the execution of this part of this act.

Execution of Part III by local authority.

Where this part of this act has been adopted in any district, the local authority shall have power to carry it into execution (subject to the provisions of this part of this act with respect to rural sanitary authorities), and for that purpose may exercise the same powers whether of contract or otherwise as in the execution of their duties in the case of the London county council under the metropolis management act, 1855, and the acts amending the same, or in the case of sanitary authorities under the public health acts, or in the case of the commissioners of sewers under the acts conferring powers on such commissioners.

Land for the purposes of this part of this act may be acquired by a local authority in like manner as if those purposes were purposes of the public health act, 1875, and sections 175 to 178, both inclusive, of that act (relating to the purchase of lands) shall apply accordingly, and shall for the purposes of this part of this act extend to London in like manner as if the commissioners of sewers and London county council, respectively, were a local authority in the said sections mentioned, and a Secretary of State were substituted for the local government board.

The local authority may, if they think fit, contract for the purchase or lease of any lodging houses for the working classes already or hereafter to be built and provided.

The local authority may, if not a rural sanitary authority, with the consent of the local government board, and if a rural sanitary authority, with the consent of the county council of the county in which the land is situate, appropriate for the purposes of this part of this act, any lodging houses so purchased or taken on lease, and any other land which may be for the time being vested in them, or at their disposal.

The trustees of any lodging houses for the working classes for the time being provided in any district by private subscriptions or otherwise, may, with the consent of a majority of the committee or other persons by whom they were appointed trustees, sell or lease the lodging houses to the local authority of the district, or make over to them the management thereof.

The local authority may, on any land acquired or appropriated by them, erect any buildings suitable for lodging houses for the working classes, and convert any buildings into lodging houses for the working classes, and may alter, enlarge, repair, and improve the same respectively, and fit up, furnish, and supply the same respectively with all requisite furniture, fittings, and conveniences.

A local authority may, if not a rural sanitary authority, with the consent of the local government board, and if a rural sanitary authority, with the consent of the county council of the county in which the land is situate, sell any land vested in them for the purposes of this part of this act, and apply the proceeds in or toward the purchase of other land better adapted for those purposes, and may in like manner and with the like consent exchange any land so vested in them for land better adapted to the purposes of this part of this act, either with or without paying or receiving any money for equality of exchange.

Management of lodging houses.

The general management, regulation, and control of the lodging houses established or acquired by a local authority under this part of this act shall be vested in and exercised by the local authority.

The local authority may make such reasonable charges for the tenancy or occupation of the lodging houses provided under this part of this act as they may determine by regulations.

The local authority may make by-laws for the management, use, and regulation of the lodging houses, and it shall be obligatory on the local authority, except in the case of a lodging house which is occupied as a separate dwelling, by such by-laws to make sufficient provision for the several purposes expressed in the sixth schedule to this act.

A printed copy or sufficient abstract of the by-laws relating to the management, use, and regulation of the lodging houses shall be put up and at all times kept in every room therein.

Any person who, or whose wife or husband at any time while such person is a tenant or occupier of any such lodging house, or any part of such lodging house, receives any relief under the acts relating to the relief of the poor other than relief granted on account only of accident or temporary illness, shall thereupon be disqualified for continuing to be such a tenant or occupier.

Whenever any lodging houses established for seven years or upwards under the authority of this part of this act are determined by the local authority to be unnecessary or too expensive to be kept up, the local authority may, if not a rural sanitary authority, with the consent of the local government board, and if a rural sanitary authority, with the consent of the county council of the county in which the lodging houses are situate, sell the same for the best price that can reasonably be obtained for the same, and the local authority shall convey the same accordingly.

Loans to and powers of companies, societies, and individuals.

In addition to the powers conferred upon them by any other enactment, the public works loan commissioners may, out of the funds at their disposal, advance on loan to any such body or proprietor as hereinafter mentioned, namely, (1) any railway company or dock or harbor company, or any other company, society, or association established for the purpose of constructing or improving, or of facilitating or encouraging the construction or improvement of dwellings for the working classes, or for trading or manufacturing purposes (in the course of whose business, or in the discharge of whose duties persons of the working classes are employed); (2) any private person entitled to any land for an estate in fee simple, or for any term of years absolute, whereof not less than fifty years shall for the time being remain unexpired; and any such body or proprietor may borrow from the public works loan commissioners such money as may be required for the purpose of constructing or improving, or of facilitating or encouraging the construction or improvement of dwellings for the working classes.

The period for the repayment of the sums advanced shall not exceed forty years.

No money shall be advanced on mortgage of any land or dwellings solely, unless the estate therein proposed to be mortgaged shall be either an estate in fee simple or an estate for a term of years absolute, whereof not less than fifty years shall be unexpired at the date of the advance.

The money advanced on the security of a mortgage of any land or dwellings solely shall not exceed one moiety of the value, to be ascertained to the satisfaction of the public works loan commissioners, of the estate or interest in such land or dwellings proposed to be mortgaged; but advances may be made by installments from time to time as the building of the dwellings on the land mortgaged progresses, so that the total advance does not at any time exceed the amount aforesaid; and a mortgage may be accordingly made to secure such advances so to be made from time to time.

For the purpose of constructing or improving, or facilitating or encouraging the construction or improvement of dwellings for the working classes, every such body as aforesaid is hereby authorized to purchase, take, and hold land, and if not already a body corporate shall, for the purpose of holding such land under this part of this act, and of sueing and being sued in respect thereof, be nevertheless deemed a body corporate with perpetual succession.

Any railway company, or dock or harbor company, or any other company, society, or association, established for trading or manufacturing purposes in the course of whose business or in the discharge of whose duties persons of the working class are employed, may and are

hereby (notwithstanding any act of Parliament, or charter, or any rule of law or equity to the contrary) authorized at any time to erect, either on their own land or on any other land (which they are hereby authorized to purchase and hold for the purpose, and to pay for out of any funds at their disposal), dwellings for the accommodation of all or any of the persons of the working class employed by them.

Any commissioners of waterworks, trustees of waterworks, water companies, gas companies, and other corporations, bodies, and persons having the management of any waterworks, reservoirs, wells, springs, or streams of water, and gas works, respectively, may, in their discretion, grant and furnish supplies of water or gas for lodging houses provided under this part of this act, either without charge or on such other favorable terms as they think fit.

A lodging house established in any district under this part of this act, shall be at all times open to the inspection of the local authority of that district, or of any officer from time to time authorized by such authority.

Any fine for the breach of any by-law under this part of this act shall be paid to the credit of the funds out of which the expenses of this part of this act are defrayed.

PART IV.—SUPPLEMENTAL.

Where an official representation made to the London county council in pursuance of Part I of this act relates to not more than ten houses, the London council shall not take any proceedings on such representation, but shall direct the medical officer of health making the same to represent the case to the local authority under Part II of this act, and it shall be the duty of the local authority to deal with such case in the manner provided by that part of this act.

In either of the following cases—(1) Where a medical officer of health has represented to any local authority in the county of London under Part II of this act that any dwelling houses are in a condition so dangerous or injurious to health as to be unfit for human habitation, or that the pulling down of any obstructive buildings would be expedient, and such authority resolve that the case of such dwelling houses or buildings is of such general importance to the county of London that it should be dealt with by a scheme under Part I of this act; or (2) where an official representation as mentioned in Part I of this act has been made to the London county council in relation to any houses, courts, or alleys within a certain area, and that council resolve that the case of such houses, courts, or alleys is not of general importance to the county of London and should be dealt with under Part II of this act—such local authority or council may submit such resolution to a Secretary of State, and thereupon the Secretary of State may appoint an arbitrator, and direct him to hold a local inquiry, and such arbitrator shall hold such inquiry, and report to the Secretary of State as to whether, having regard to the size of the area, to the number of houses to be dealt with, to the position, structure, and sanitary condition of such houses, and of the neighborhood thereof, and to the provisions of Part I of this act the case is either wholly or partially of any and what importance to the county of London, with power to such arbitrator to report that in the event of the case being dealt with under Part II of this act, the London county council ought to make a contribution in respect of the expense of dealing with the case.

The Secretary of State, after considering the report of the arbitrator, may, according as to him seems just, decide that the case shall be dealt with either under Part II of this act, or under Part I of this act, and the medical officer of health or other proper officer shall forthwith make the representation necessary for proceedings in accordance with such decision.

The settled land act, 1882, shall be amended as follows: (1) Any sale, exchange, or lease of land in pursuance of the said act, when made for the purpose of the erection on such land of dwellings for the working classes, may be made at such price, or for such consideration, or for such rent, as, having regard to the said purpose and to all the circumstances of the case, is the best that can be reasonably obtained, notwithstanding that a higher price, consideration, or rent might have been obtained if the land were sold, exchanged, or leased

for another purpose; (2) the improvements on which capital money may be expended, enumerated in section 25 of the said act, and referred to in section 30 of the said act, shall, in addition to cottages for laborers, farm servants, and artisans whether employed on the settled land or not, include any dwellings available for the working classes, the building of which, in the opinion of the court, is not injurious to the estate.

Any body corporate holding land may sell, exchange, or lease the land for the purpose of the erection of dwellings for the working classes at such price, or for such consideration, or for such rent as having regard to the said purpose and to all the circumstances of the case is the best that can reasonably be obtained, notwithstanding that a higher price, consideration, or rent might have been obtained if the land were sold, exchanged, or leased for another purpose.

In any contract made after the 14th day of August, 1885, for letting for habitation by persons of the working classes a house or part of a house, there shall be implied a condition that the house is at the commencement of the holding in all respects reasonably fit for human habitation. In this section the expression "letting for habitation by persons of the working classes" means the letting for habitation of a house or part of a house at a rent not exceeding in England the sum named as the limit for the composition of rates by section 3 of the poor-rate assessment and collection act, 1869, and in Scotland or Ireland, £4.

The London county council may, with the consent of a Secretary of State, at any time appoint one or more legally qualified practitioner or practitioners, with such remuneration as they think fit, for the purpose of carrying into effect any part of this act.

Any person authorized by the local authority may at all reasonable times of the day, on giving twenty-four hours' notice in writing to the occupier or his intention so to do, enter any dwelling house, premises, or building which the local authority are authorized to purchase compulsorily under Part I or Part II of this act for the purpose of surveying and valuing such dwelling house, premises, or building.

Where a building or any part of a building purchased by the local authority in pursuance of a scheme under Part I or Part II of this act is not closed by a closing order, and is occupied by any tenant whose contract of tenancy is for less than a year, the local authority, if they require him to give up possession of such building or part for the purpose of pulling down the building, may make to the said tenant a reasonable allowance on account of his expenses in removing.

For the purposes of this act, a local authority acting under this act may appoint out of their own number so many persons as they may think fit, for any purposes of this act which in the opinion of such authority would be better regulated and managed by means of a committee; provided that a committee so appointed shall in no case be authorized to borrow any money, to make any rate, or to enter into any contract, and shall be subject to any regulations and restrictions which may be imposed by the authority that formed it.

Where a local authority sell any land acquired by them for any of the purposes of this act, the proceeds of the sale shall be applied for any purpose, including repayment of borrowed money, for which capital money may be applied, and which is approved by the local government board.

A person shall not vote as member of a local authority or county council or any committee thereof upon any resolution or question which is proposed or arises in pursuance of Part I or Part II of this act, if it relates to any dwelling house, building or land in which he is beneficially interested.

If any person votes in contravention of this section he shall, on summary conviction, be liable for each offense to a fine not exceeding £50; but the fact of his giving the vote shall not invalidate any resolution or proceeding of the local authority or county council.

Where any person obstructs the medical officer of health, or any officer of the local authority, or of the confirming authority mentioned in Part I of this act, in the performance of anything which such officer or authority is by this act required or authorized to do, such person shall, on summary conviction, be liable to a fine not exceeding £20.

The only legislation since 1890, of a nature not purely local, is the brief explanatory act of August 25, 1894 (57 and 58 Vict., chapter 55), as follows:

(1) For any purpose for which a local authority are, by a scheme for reconstruction duly sanctioned under Part II of the housing of the working classes act, 1890, or by the order sanctioning the scheme, authorized to borrow, the authority shall have power and shall be deemed always to have had power to borrow in like manner and subject to the like conditions as they may borrow under section 43 of that act for the purpose of raising the sums required for the purchase money or compensation therein mentioned, and sections 43 and 46 of that act shall apply accordingly.

The London county council, shortly after its creation, prescribed the following building regulations, which are now in force. I do not understand whether they are mandatory or merely advisory, or whether their infraction may be followed by penalties. They are, at all events, supplementary of the laws which apply to the erection of all buildings.

HOUSING OF THE WORKING CLASSES.

Staircases.—A central staircase in blocks of dwellings is objectionable, and as regards convenience of plan and thorough ventilation of each dwelling, the best among the modes commonly in use is that which provides a staircase close to the outer wall, and having large openings communicating with the open air. Such a staircase can be conveniently arranged to give access to four dwellings, and the ventilation of such dwellings can be effected by means of open doors and fan lights, so that a thorough current of air can be obtained when it is desired. If it is felt in the winter time that this arrangement leaves the persons using the staircases too much exposed to the weather, windows partially inclosing the openings can be provided.

The chief alternative to this kind of staircase seems to be one which is in the center of the block, and gives access to dwellings on each side of it. In this case the ingress of fresh air to the staircases can only be through the entrance doorway and leading along a short passage, and through the skylight at the top of the staircase. Upon this the dwellings opening from the staircase have to depend for their through ventilation.

Both these plans are in considerable use.

Staircases in buildings more than three stories high should be at least 4 feet in width. The walls of the staircases to a height of about 4 feet 6 inches should be finished with glazed or hard-pressed bricks; the upper portions with hard bricks, neatly pointed.

Basement floors.—There is no doubt that, as compared with the other floors of a building, the basement floor is undesirable as a residence, but in building artisans' dwellings it is generally expedient to construct a story below the ground floor, though it is not necessary that they be used as "dwellings;" but inasmuch as there is no definite evidence at the present time that basement rooms, fronting upon a principal street, should not be used for dwelling purposes, their use need not be forbidden, provided that adequate precautions against fire are taken, and that the bottom of the window sills is not lower than the level of the adjoining pavement, and not more than 3 feet above the floor, and that in other respects they agree with the provisions of section 103 of the metropolis local management act (18 and 19 Vict., chapter 120), as applied to new buildings.

They are usually let at a rate materially lower than the rooms above them, but if they are let at the same rate as the upper floors in a high block of buildings, they are preferred by many people who are not able to mount a considerable number of stairs. Beyond the question of health, it is not necessary to object to such rooms on account of their proximity to the street, those who occupy them being able to make such arrangements for privacy as they find necessary.

Where no areas are practicable, the walls should be covered with asphalt or other damp-resisting material, from the damp course to the footings.

Bathrooms, etc.—Unless they are in close vicinity to public baths and washhouses (a condition which can very rarely happen), bath and washhouse accommodations should be provided to every block of dwellings, and this can be best provided in a separate building or on the basement floor, or in a distinct section of the block that can be constantly under inspection, and to which inexpensive arrangements for water supply, etc., can be applied.

In connection with this matter, the water-closet accommodation has been considered, on the assumption that the dwellings to be built or promoted by the council will generally be for the accommodation of the lowest class of the population which inhabits separate tenements, a class just above that which uses the common lodging houses, and for which neither private speculators nor the societies for building artisans' dwellings make any provision. It seems inexpedient that either water-closets or separate water supply or sinks should be constructed so as to be immediately accessible from any dwelling rooms. A sufficient number of closets should be supplied to each floor of dwellings to which a separate staircase is provided, together with a provision of sinks and water supply for common use. Such closets should have both doors and windows opening directly to the open air; and where possible there should be one closet to each family.

Dust shoots should be provided from each common scullery, or from the landing adjacent, to discharge into galvanized iron movable dust bins, which can be carried out and emptied into the dust cart.

Size of rooms.—The number of rooms to be provided in each tenement and their sizes have been considered as one question, and the following may be regarded as minima:

(1) In a one-room tenement the minimum superficial area should be 144 feet. This would conveniently be provided in a room measuring about 12 by 12 feet.

(2) A two-room tenement should have a similar room, with an additional room containing 96 superficial feet, or measuring 12 by 8 feet.

(3) A three-room tenement should have a large room containing 144 feet in superficial area, and two rooms each containing 96 feet.

These sizes, however, should not be rigidly fixed, but rooms of various sizes should be provided.

Four-room tenements need not be provided, but if they are, the fourth room should be of about 100 feet superficial area.

It would be convenient as regards planning, and also as regards the population to be accommodated, that some variety should exist in the sizes of the rooms in each tenement as well as in their number, in order to provide for the different conditions of the families.

The standard height for every room should be 9 feet. The walls of the rooms should be finished in some hard material, for which purpose portland cement upon brickwork, or brick with pressed face on both sides, should be used up to a height of about 3 feet 6 inches. The upper parts of the walls can be finished by a thin coating of hard plaster upon brickwork, but upon this point some further inquiry is desirable.

In designing the buildings some care should be taken to give a pleasant appearance to them.

As regards the interval which should exist between any block of dwellings and the nearest building obstructing the light from its windows, it is suggested that, if practicable, this distance should be equal to one and one-half times the height of the obstructing building. But it does not appear that this space can, in view of the cost of land, be generally provided. Under no circumstances should a nearer distance than the height of the buildings be allowed.

Under the provisions of the artisans' and laborers' dwellings acts, the city of London cleared two large spaces—one called the "Petticoat Square site," at the extreme east of the city, and the other called the "Golden Lane site," at the extreme north. On the first space, 164 tenements were de-

molished, 79,198 square feet of land was cleared, the streets and sewers were reconstructed, and model dwellings, some with shops on the ground floor, were constructed. These were finished in 1885. The whole cost of site, reconstruction, and building amounted to £201,415 ($980,885).

The buildings comprise five blocks, each 30 feet wide, 58 feet high, and from 158 to 221 feet long. They are provided with open landings, washhouses, drying places, sculleries, water-closets, water, gas, and, in fact, all facilities for insuring light, air, and cleanliness.

The scale of rents is as follows: Shop with two rooms and basement, from 28s. to 30s. ($6.82 to $7.30) per week; shop with one room and basement, 23s. ($5.59); tenement of three rooms, 9s. ($2.19); tenement of two rooms, 7s. ($1.71); tenement of one room, 4s. (99 cents). The gross rental is £6,000 ($29,196) a year.

Following are the regulations for occupancy of tenements in Petticoat Square:

(1) All tenants, before taking possession, are required to pay a deposit of 3s. This deposit is not to be considered as rent, but as security for any damage which may be done to the rooms during the tenancy. Provided no damage is done to the rooms, fittings, or cupboards, and that all windows are left perfect, and all keys given up, the deposit or the balance thereof will be returned to the tenant. A receipt for the deposit will be given by the superintendent, which must be produced and given up when the deposit is returned.

(2) The rents to be paid a week in advance, and will be received on each Monday at the superintendent's office from 10 to 12 and from 2 to 5. Tenants will not on any account be allowed to be in arrear with rent, nor be allowed to take lodgers nor to underlet the rooms.

(3) Notice to give up possession of any tenement must be given in writing, on or before 12 o'clock on a Monday, to vacate the rooms on the following Monday, otherwise the tenant is liable for another week's rent.

(4) The tenants must keep all windows clean, and all broken windows must be at once reinstated. No flowerpots are to be exposed on the outside ledges without sufficient protection (under a penalty of 40s.; see police act).

(5) Children are not to play or make a noise on the stairs and landings, and on no account to go on the roof of the building.

(6) The tenants will have the use of the roof in regular order for drying clothes, but with no right thereto on any other than the regular day assigned to them. Clothes lines are to be removed when not in actual use. Tenants are on no account to hang clothes out of the windows or on the landings.

(7) No carpets, mats, etc., can be allowed to be beaten and shaken after 10 in the morning, except on a Saturday and in the place set apart for that purpose.

(8) Liquids or anything likely to cause an obstruction are forbidden to be thrown down the dust shafts, or any refuse into the courtyards.

(9) All chimneys in constant use must be swept by the tenants at least once in every three months. In default thereof the superintendent may cause the same to be done and charge 6d. for so doing, which is to be paid with the next week's rent.

(10) Drunken or disorderly tenants will be subject to immediate expulsion from their occupancies.

(11) Tenants are required to report to the superintendent immediately any births, deaths, or infectious diseases occurring in their several tenements. Any tenant not complying with this rule will receive notice to quit.

(12) The right is reserved to the commissioners by their superintendent, agent, or workman, to inspect the state of repair of each tenement, at all reasonable hours of the day. Any

CONSULAR REPORTS No. 178—face p. 447.

stoppage of pipes, defects in the water closets or taps, or otherwise, is to be immediately reported to the superintendent.

(13) A laundry is provided for the use of the tenants for their own washing, but it can not be used for the purpose of carrying on the trade of a laundress, and each tenant is required to leave the copper, washing trays, and fireplace clean after using the same.

(14) The gas will be turned off at 11 p. m., and the outer doors closed for the night; but each tenant will be provided with a key to admit him at all hours.

(15) Tenants must strictly comply with these regulations, and with any further instructions which may hereafter be given to insure the cleanliness of the dwellings, and the comfort and quiet occupation of the several tenants.

As this group of buildings is a type of those erected or likely to be erected, I append plans of them—floor plans and the elevation and general view.

The London county council, a public body of recent creation, with qualified jurisdiction over the whole administrative county of London, has entered upon similar improvements, but as the result is not yet in print I am unable to include its operations or to furnish data of sufficient value for publication.

PEABODY TRUST, GUINNESS TRUST, ETC.

The great work of providing improved dwellings for the working classes and the poor in and about London has, however, been prosecuted by philanthropic bodies, public companies, and individuals, acting without any special legislative powers, except, in the cases of companies in their corporate capacity.

Notable among these are the Peabody Trust, the Guinness Trust, the Metropolitan Association, the Improved Industrial Dwellings Company, and the Artisans' and Laborers' Dwellings Company.

First in rank and age of the philanthropic builders is the Peabody Trust, the munificent creation of our own countryman, George Peabody. The following extract from its twenty-ninth and latest annual report will show the nature and extent of its work:

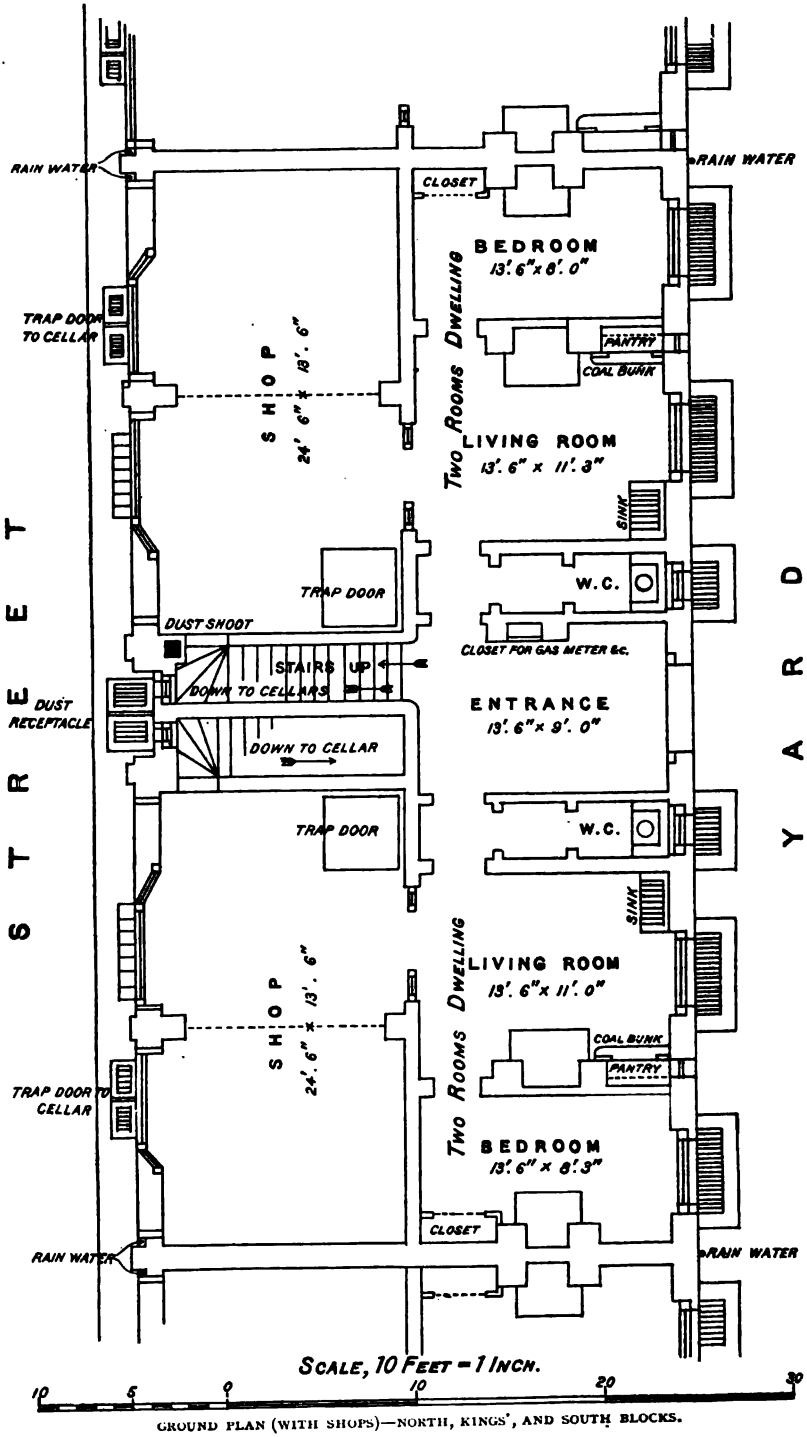
The net gain of the year, from rents and interest has been £30,145 16s., as shown by the annexed accounts.

The sum given by Mr. Peabody was, in 1862, £150,000; in 1866, £100,000; in 1868, £100,000; and received by bequest from him in 1873, £150,000; making a total of £500,000; to which has been added money received for rent and interest, £610,908 19s. 4d., making the total fund on the 31st of December last, £1,110,908 19s. 4d. Of the £390,000 borrowed of the public works loan commissioners and others, mentioned in previous reports, the trustees have paid off £255,000, leaving a balance unpaid of £135,000, the amount repaid during the year being £25,500.

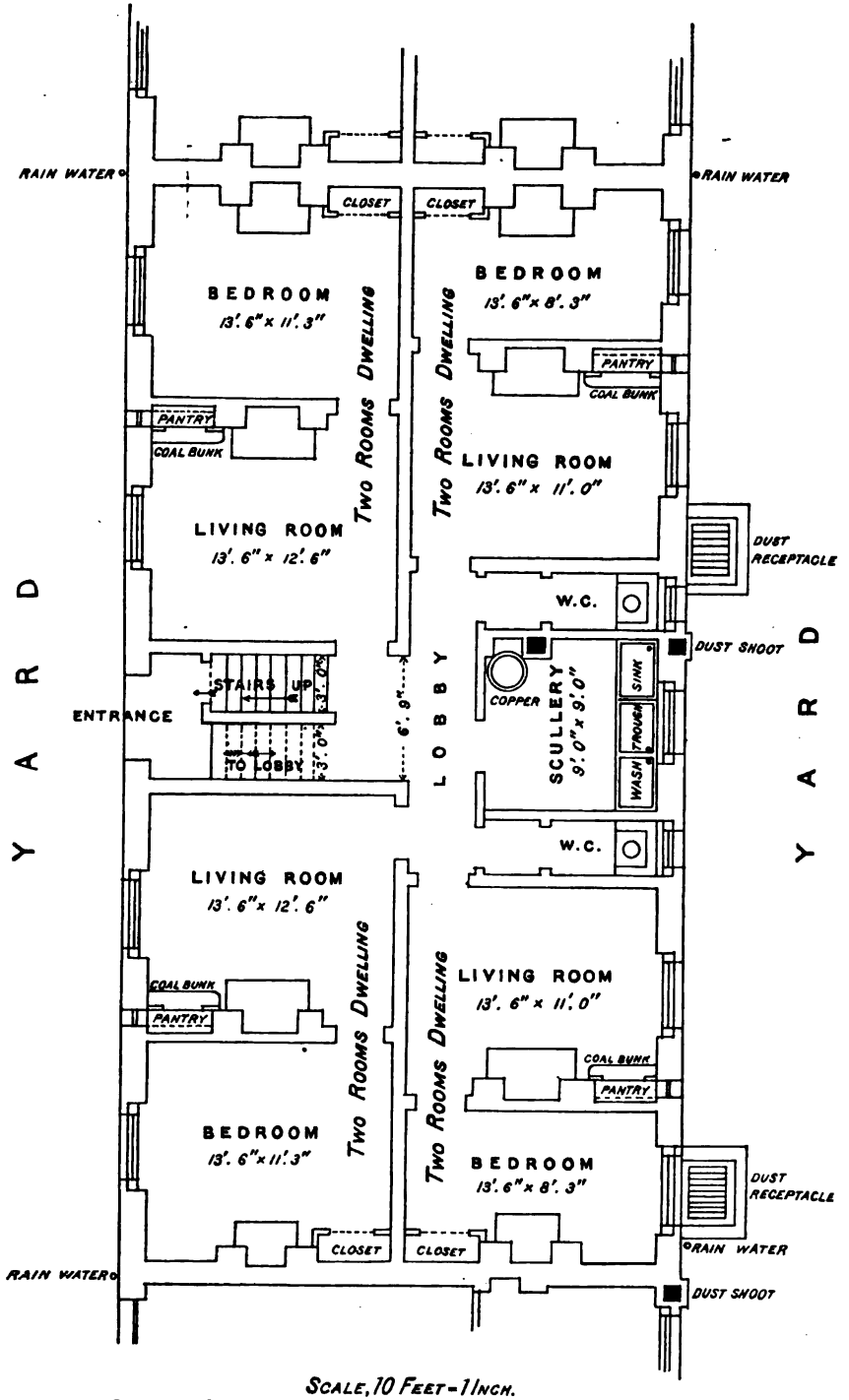
The capital expenditure on land and buildings to the end of the year was £1,242,046 2s. 11d., being an increase of £6,036 14s. 2d., incurred in the purchase of land and erection of buildings.

The whole of the repairs for the year, amounting to £8,958 11s., have been charged to income as formerly.

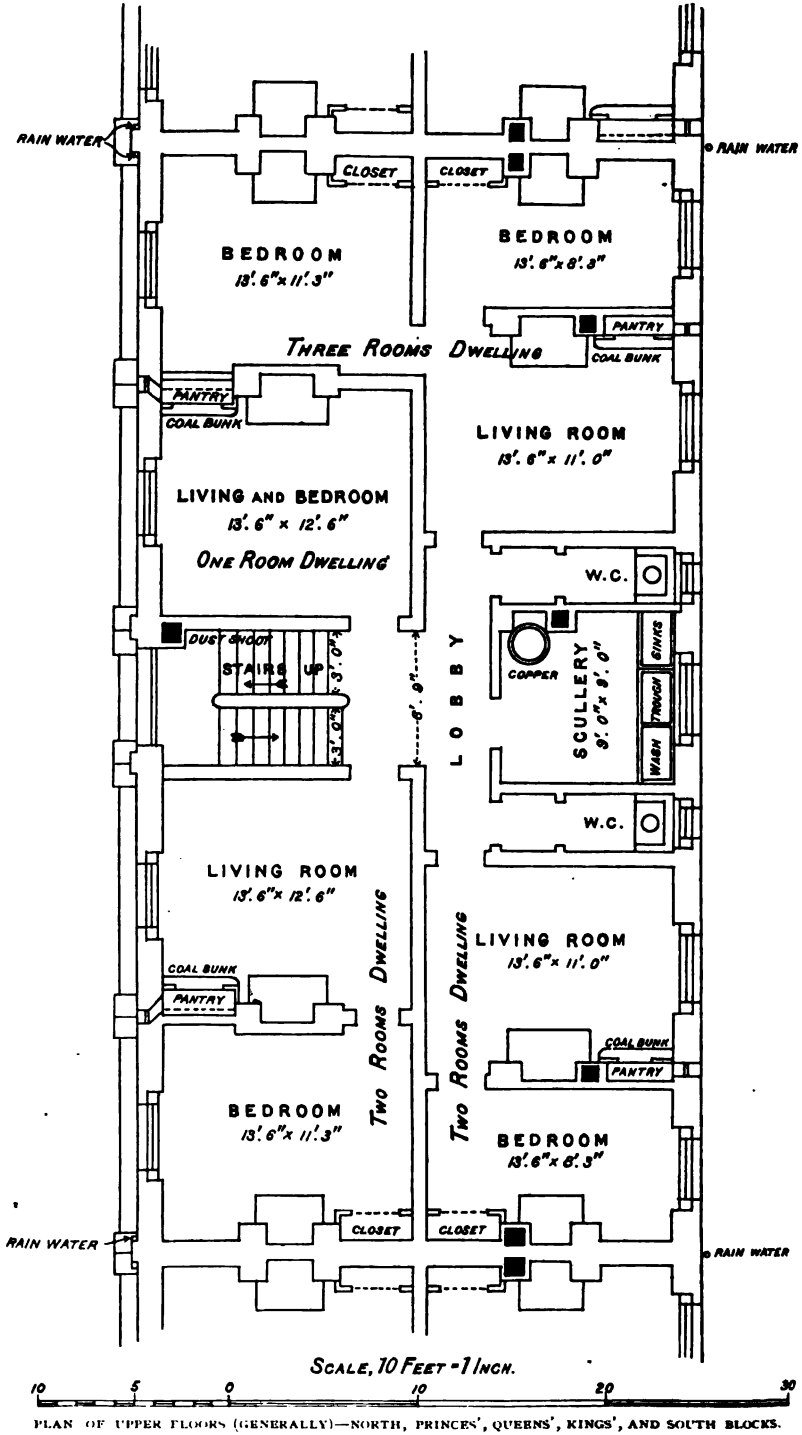
Up to the end of the year, the trustees have provided for the artisan and laboring poor of London 11,273 rooms, besides bathrooms, laundries, and washhouses. These rooms comprise 5,070 separate dwellings, viz, 75 of four rooms, 1,787 of three rooms, 2,404 of two rooms, and 804 of one room.



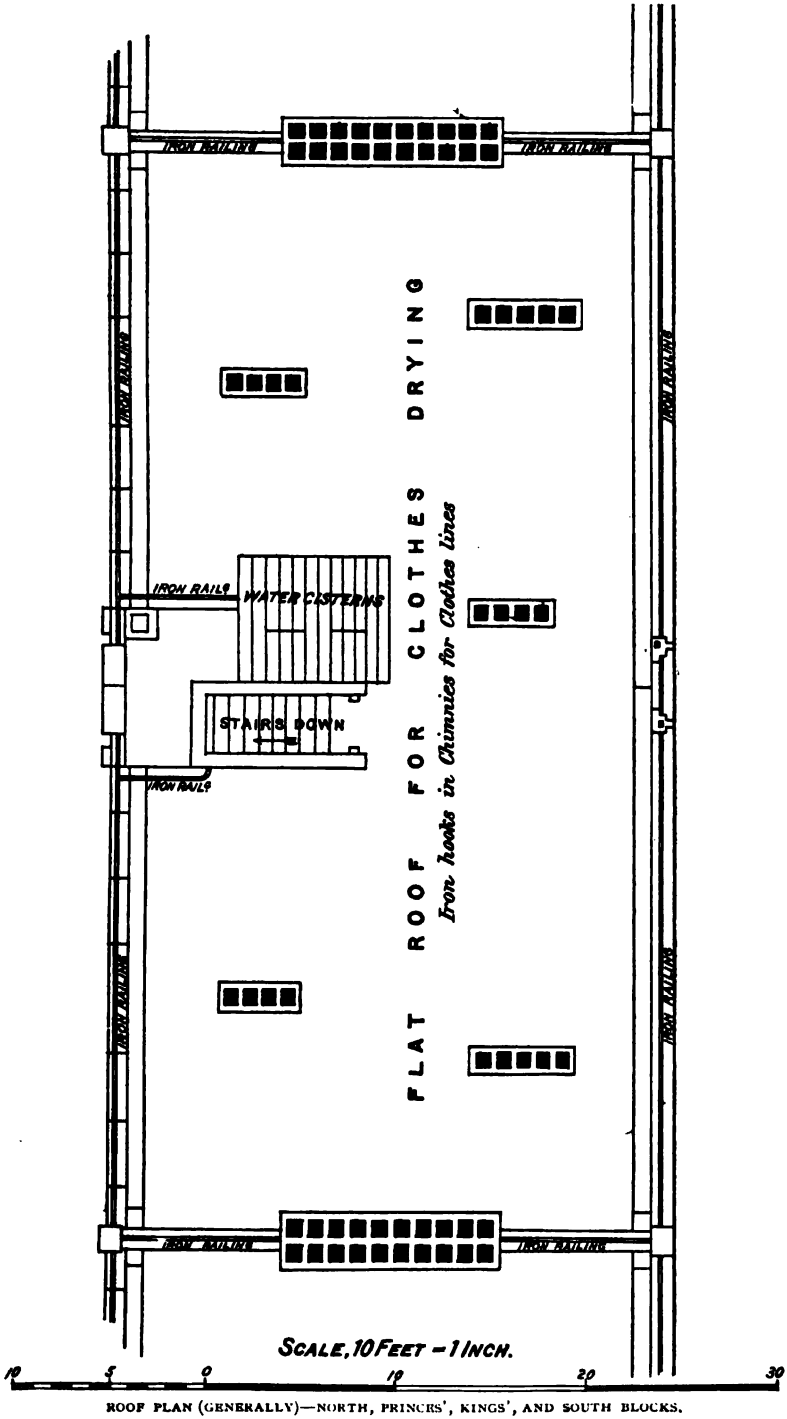
GROUND PLAN (WITH SHOPS)—NORTH, KINGS', AND SOUTH BLOCKS.



GROUND PLAN (WITHOUT SHOPS)—PRINCES' AND QUEENS' BLOCKS.



PLAN OF UPPER FLOORS (GENERALLY)—NORTH, PRINCES', QUEENS', KINGS', AND SOUTH BLOCKS.



ROOF PLAN (GENERALLY)—NORTH, PRINCES', KINGS', AND SOUTH BLOCKS.

The number of persons in residence on the 31st of December last was 19,937, which is less than formerly, but mainly due to temporary removals during extensive structural alterations now in progress at the Spitalfields buildings.

Two blocks of buildings, containing fifty and sixty rooms, respectively, are now in course of erection on the Stamford street estate, and it is hoped they will be ready for occupation in the autumn.

The average weekly earnings of the head of each family in residence at the close of the year was £1 3s. 7½d. The average rent of each dwelling was 4s. 9¼d. per week, and of each room 2s. 1¼d. The rent in all cases includes the free use of water, laundries, sculleries, and bathrooms.

The birth rate for the year reached 35.1 per 1,000, which is 4.1 per 1,000 above that of all London for the same period. The death rate, including the deaths of 65 inhabitants of the buildings who were removed to hospitals, was 17.6 per 1,000, which is 3.7 per 1,000 below the average of London. The infant mortality was 126.4 in each 1,000 births, or 37.9 below that of London. The actual number of births and deaths are from returns furnished by the district registrars, and the calculations have been checked and confirmed at the general register office, Somerset House.

Occupations of the heads of families of tenants (Peabody Trust).

Occupation.	Number.	Occupation.	Number.	Occupation.	Number.
Bag makers	16	Florists	8	Police constables	195
Bakers	27	French polishers	25	Porters	529
Bookbinders, etc	100	Furriers	15	Printers	128
Book folders	45	Gardeners	7	Sailors	19
Boot and shoemakers	45	Gas fitters	18	Scavengers	14
Box makers	31	Glass cutters	10	Scripture readers	6
Brass finishers	27	Hatters	16	Servants	89
Brewers' men	120	Harness makers	9	Shirt cutters	8
Bricklayers	33	Jewelers	15	Shopmen	77
Brush makers	6	Laborers	679	Smiths	48
Butchers	17	Lamplighters	20	Soldiers	23
Cabinetmakers	26	Laundresses	32	Stevedores	12
Cabmen	37	Leather dressers	18	Stokers	29
Carmen	271	Letter carriers, etc	93	Storekeepers	5
Carpenters	64	Lightermen	18	Tailors	97
Cellar men	40	Machinists	72	Ticket collectors	10
Charwomen	295	Mangle women	27	Tide waiters	6
Checkers	20	Masons	26	Timekeepers	17
Cigar makers	10	Messengers	101	Tin-plate workers	15
Cloth workers	15	Metal workers	41	Travelers	15
Coachmen and stablemen	100	Molders	6	Turners	7
Cooks	28	Needlewomen	259	Type founders	7
Coopers	12	Nurses	46	Umbrella makers	14
Costermongers	17	Office keepers	22	Upholsterers	15
Enginemen	40	Packers	122	Various handicrafts	37
Engravers	9	Packing-case makers	16	Waiters	68
Farriers	6	Painters, etc	59	Warehouse laborers	176
Firemen	22	Pensioners	27	Watchmen	40
		Plumbers	10	Wheelwrights	9

Weekly rents charged at the various groups of Peabody buildings.

Where situate.	One room.	Two rooms.	Three rooms.	Four rooms.
	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
Shadwell	2 0 to 2 3	3 3 to 3 6	4 3 to 4 6	.....
Chelsea	2 3 to 2 6	3 6 to 4 0	4 6 to 4 9	.....
Islington	2 6 to 3 0	3 3 to 5 0	5 0 to 6 6	.....
Spitalfields	2 6	3 6 to 4 0	4 6 to 5 0	.....
Bermondsey	2 6	4 0 to 4 3	5 0 to 5 6	.....
Westminster	2 6 to 3 4	4 0 to 5 6	5 0 to 6 9	.....
Old Pye street	2 6 to 3 0	3 6 to 5 0	5 0 to 6 3	.....
Blackfriars road	2 6 to 3 0	3 9 to 4 6	4 9 to 5 9	.....
Stamford street	2 9 to 3 0	4 3 to 4 6	5 0 to 5 9	.....
Southwark street	3 0	4 3 to 4 9	5 3 to 5 9	.....
Pimlico	2 9 to 3 0	4 6 to 6 0	5 9 to 7 6	7 6
Whitechapel	3 0	4 3 to 4 9	5 3 to 6 0	.....
Bedfordbury	2 9 to 3 3	5 0 to 5 3	5 6 to 6 6	7 0 to 7 6
Great Wild street	2 6 to 3 0	4 3 to 5 0	5 0 to 6 6	.....
Orchard street	2 9 to 3 3	4 3 to 5 6	5 3 to 7 3	7 6
Whitecross street	2 6 to 3 6	4 3 to 5 3	5 9 to 6 6	7 3 to 7 6
Clerkenwell	2 6 to 3 0	4 9 to 5 3	6 0 to 6 9	.....
Little Coram street	2 6 to 3 0	5 0 to 5 3	6 3 to 6 6	.....

The Guinness Trust owns in London buildings—some not quite completed—with 1,875 tenements, containing 3,705 rooms. Those completed were, on December 31, 1893, fully occupied by 3,245 persons. The average weekly rent of a tenement was 3s. 11½d. (96 cents). During the year there were 129 births and 73 deaths on this estate.

The Metropolitan Association is a company with share capital, now fifty years in operation. It owns eleven buildings or groups of buildings occupied on the average by 6,502 persons, and renting for over £24,000 ($108,784). The rate of mortality for the past year, reported at the annual meeting, was only 15.37 per 1,000, against 21.3 per 1,000 in the whole metropolis.

The Improved Industrial Dwellings Company, incorporated in 1863, owns twenty-six buildings, or groups of buildings, with over 5,000 tenements of from one to six rooms each, 117 shops, and 45 workshops, the whole renting for about £100,000 ($486,600) per annum. The deaths in the buildings for the year ending June 30, 1893, were reported at the rate of 11 per 1,000, the rate for the whole metropolis being 19.2. The birth rate was 31.6 per 1,000, as against 30.9 for the whole metropolis.

The Artisans', Laborers', and General Dwellings Company, incorporated in 1869, owns ten groups of buildings, with 1,467 tenements, comprising 3,495 rooms and 148 shops, renting in 1893 for £31,692 3s. ($154,214).

A large number of smaller companies and individuals have built and own improved dwellings for the working people and the poor in and about London, but data concerning them is impossible to obtain to show the whole result of these better conditions. The illustrations given above will suffice, I think, to fairly answer the inquiry made.

It is certain that in these buildings, and in all the others of similar character that I have inquired about, the death rate is lower than the average rates of the metropolis. But this does not state the whole fact. While the

death rate for the whole metropolis averages, say, 20 per 1,000 per annum as against 15 per 1,000 in these improved dwellings, the death rate in the "slums" similar to those displaced by the improved dwellings is from 30 to 40 per 1,000 of population.

All my information compels the conclusion that crime has greatly diminished, and that the moral tone and practice have vastly improved among the people transferred from the old, evil conditions to this new class of dwellings.

In one of the principal groups of buildings I have referred to, containing some 900 tenements, but four illegitimate births have been known in the past four years; and from some others the report is that none has happened in two years. In all of them, I am satisfied, there is very little crime of any sort. At all events, they seem to give the police and the courts little or no trouble.

This result may fairly be attributed to the constant and intelligent supervision of the premises, as well as to good building, judicious arrangements, and proper sanitary provisions.

PATRICK A. COLLINS,
Consul-General.

LONDON, *October 10, 1894.*

PARIS.

The city of Paris is not only one of the best-governed cities in the world, so far as police protection, the system of cleaning streets, and general municipal reforms enacted are concerned, but the sanitary condition is of the best, and new laws are continually being made with the sole idea of perfecting the health and decreasing the death rate.

One great step in this direction is the recent enactment of a law regulating the construction and use of cheap tenement houses—dwellings for artisans. In all the large cities of the world, one of the most dangerous and intolerable evils is the sanitary condition of cheap tenement houses, where the very poor are compelled to live. Paris, perhaps, has fared better, as statistics will show, as regards morals, crime, health, and otherwise, in cheap tenement dwellings where two or more families reside than any of the large cities of the world. Until very recently, a law enacted during the first Republic in regard to the construction and use of cheap tenement houses for artisans has been in force. These buildings are divided into two distinct classes, and are under the strict control and supervision of the chief of police. One class is the cheap unfurnished apartments in which several families reside; the other is the cheap furnished apartments in which also a number of families live. A general board of health emanating from the prefecture of the Seine, which is called the "Bureau de la Salubriété générale," exercises complete control over these buildings, so far as sanitary conditions are involved. When the latter are brought to the notice of the board of health, or when-

ever a complaint is made of some defect in the sanitary arrangement of any building that may be dangerous to the health of the inhabitants or the city generally, the board at once orders a thorough investigation made and steps are taken to remedy the evil. The furnished tenement houses (*garnies*) are placed under the supervision of a board known as the "Bureau des Garnies," which also emanates from the prefecture of the Seine. Before anyone can let furnished rooms, a declaration must be made and filed with the bureau, stating that the building and rooms are in good sanitary condition. In addition to this, a medical inspector is sent to examine the building and rooms to ascertain whether they can accommodate the number of people they are destined to receive, and whether, in a general way, they are in good sanitary condition. There is also connected with the prefecture of police a special medical department called "La Salubriété," which is only a part of the general health department. Upon the report made by the medical inspector in regard to the sanitary condition of any building, furnished or unfurnished, the bureau gives or refuses permission to the proprietor to let his rooms. The first step, therefore, necessary for a landlord to take before he can rent his rooms, is to procure a license or permit from this board. This license can be procured upon the landlord making affidavit that his building is in good, healthful condition. It might be noted that not only the cheap tenement houses which are occupied by artisans and the poorer class are submitted to this inspection, but all furnished houses, hotels, etc., the highest as well as the lowest, are submitted to a rigid inspection and are under the active control of the "Bureau des Garnies." For each and every apartment or furnished room that is let, there must be kept by the landlord a full and complete record of all arrivals and departures. Every other day an inspector calls at each house where furnished apartments and rooms are let to inspect the record kept, and inquire as to any events pertaining to the general sanitary condition that may have occurred within the past forty-eight hours in that particular house or in the neighborhood. It has been a mooted question whether this inspection should not take place daily instead of every two days, and only the question of increase of the number of inspectors, which necessitates an additional expense, prevented the authorities from having the inspection made daily. There are now 102 inspectors of this kind for Paris. These inspectors have certain districts within the corporate limits of the city of Paris, and make their rounds regularly every two days, and so make their reports. There are no tenement houses constructed solely for the habitation of workingmen by the city government, but a banking corporation in Paris, known as the Banque d'Escompte, has constructed certain tenement dwellings in a quarter of Paris, known as the Buttes Chaumont, where manufactories and working establishments are situated, occupied solely by workingmen. These tenement buildings, however, are of the better class, and are rented to the workingmen who can afford to pay a rental of from $30 to $40 per month. Of course, these buildings are under the strict supervision of the municipal authorities and are given a close inspection as to their sanitary condition,

etc. Each building contains a certain number of flats or separate apartments, and are occupied by mechanics with their families.

Formerly, there were in Paris a number of establishments or houses where the unemployed could find a refuge at night for a trifling sum, but these have mostly disappeared. Only two remain, situated in the neighborhood of the great central market, but they are more like eating houses than tenement houses. There are large rooms, however, holding from 200 to 300 people, and the homeless can procure, at a cost of 4 cents, a bowl of soup and a chair where they are allowed to spend the night. No beds or covering are furnished. These establishments, of course, are under the strictest police regulation, and under the most careful medical inspection. They are for both men and women, the sexes, however, occupying separate rooms. But few crimes have been committed, and the general morals are considered good.

There are one or two charitable institutions in Paris which are maintained by private subscription, and which are known as lodgings for workmen. One institution, known as the "Oeuvre de l'Hospitalité de Nuit," gives lodgings to people out of work for three nights free of charge. An institution of this character was founded in the suburbs of Paris by a lady named Foucault. She built small cottages adapted for the use of working people of the poorest class, principally ragpickers, which, I am told, has been of much good.

There are no statistics which show the death rate, the number of illegitimate children, or of any crimes committed in any of the tenement houses occupied by the poorer class. Statistics do show, however, that the enactment of new laws and regulations, which pertain to the general sanitary condition of Paris, tend to benefit the general health of the city and reduce the death rate. The statistics for 1894 are not at hand, but in 1892, the total number of deaths from all causes in the city of Paris was 57,137, while in 1893, the total number was only 52,955, and though the population of Paris increases annually, it will be noted that the death rate for these years decreased. However, an estimate already made of the deaths in Paris for 1894 shows that the total number possibly will not exceed 50,000, showing an improvement in the sanitary condition.

The statistics of 1892 show that there were born 58,573 children. Of this number 15,486 were illegitimate, the larger portion of which were among the poorer classes. The total number of births for 1893 was 62,974; of this number, there were 17,307 illegitimate.

Until the adoption of a recent law passed by the Senate and the Chamber of Deputies and signed by the President of the Republic November 30, 1894, there had been no legislation on the subject of tenement houses and dwellings for workingmen in France for a number of years. This law, as passed, is attached to this report, together with a translation into English.

CLYDE SHROPSHIRE,
Vice-Consul-General.

PARIS, *December 28, 1894.*

[Translation.]

LAW IN REGARD TO CHEAP TENEMENT HOUSES, PROMULGATED DECEMBER 1, 1894.

ARTICLE 1. There may be established in every department one or more committees of cheap tenement houses. The purpose of such committees is to encourage the building of healthful and cheap tenement houses, either by private parties or by corporations, with a view to letting or selling them, either for cash payment or on annuities, to persons not being house-owners, particularly to workmen or employees who may be supporting themselves mainly by their work or by their salary, or by parties interested in the said associations for their own personal use.

ART. 2. These committees may receive subventions from the State or from the commune, as well as gifts and legacies, under the conditions prescribed by article 910 of the civil code in regard to establishments of public utility. They shall not, however, be allowed to possess any other real estate than what is necessary for their meetings. They may make investigations, open competitions, grant prizes for tidiness and cleanliness, give encouragement in a pecuniary form, and, more generally, use all means of promoting the building and the improving of cheap tenement houses. In case these committees should cease to exist, the surplus of their assets, after liquidation, may be distributed, under the advice of the superior council created by article 14 hereinafter, to the corporations for building cheap tenement houses, or to the providing associations, or to the charitable institutions of the same district.

ART. 3. The rent and office expenses, the salary of the secretary to the committee, and any sums that may be allowed as traveling expenses to the members of such committees who shall not be residents of the place where the meetings are held may be charged by the general council on the budget of the department.

ART. 4. These committees are instituted by decree of the President of the Republic under advice of the general council and of the superior council of cheap tenement houses. The same decree determines the extent of territory over which they shall have control, and also the number of the members, of which there shall be at least nine, and, at most, twelve. One-third of the members of the committee are appointed by the general council, which elects the same from among the members of the general council—the mayors, the members of the chambers of commerce and of consultative chambers of arts and manufactures situated within the territory of such committee. The other two-thirds are appointed by the prefect, namely, one-third among persons specially competent in questions of hygiene, construction, and social economy, and the other third among the members of associations for building cheap tenement houses, of mutual providing and savings associations, and the professional syndicates established in conformity with the law. These committees, thus constituted, shall make their own regulations, which are submitted to the approval of the prefect. They appoint their president and secretary, and the latter may be chosen outside of the committee. The committees are appointed for three years, and their mandate may be renewed.

ART. 5. The advantages granted by this present law apply exclusively, as far as individual houses destined to be acquired by the parties mentioned in article 1 or built by the same are concerned, to property of which the net taxable revenue, determined in conformity with article 5 of the law of August 8, 1890, shall not exceed by more than one-tenth, in communes of less than 1,000 inhabitants, 90 francs; from 1,001 to 5,000 inhabitants, 150 francs; from 5,001 to 30,000 inhabitants, 170 francs; from 30,001 to 200,000 inhabitants, and in the communes situated within a radius of 40 kilometers from Paris, 220 francs; in communes of 200,001 inhabitants and more, 300 francs; and in Paris, 375 francs. As regards individual or collective houses destined to be let, to those of which the net taxable revenue for the whole thereof, or for each of the tenements of which they are composed, and which may be destined to be let separately does not amount to a higher figure than those given hereinbefore for each class of communes.

ART. 6. The charitable institutions, hospitals, and houses of retreat may, by the authorization of the prefect, employ a part of their capital, which can not exceed one-fifth, to the

building of cheap tenement houses within the limit of their charitable district as well as in loans guarantied by mortgages to the corporations for building cheap tenement houses, and to financial corporations which, although they do not build, have for their object to facilitate the purchase or the building of these houses, and in any debentures of said corporations.

The "Caisse des dépôts" and consignations (public deposit bank) is authorized to employ no more than one-fifth of the reserve fund arising from the investment of the funds belonging to the savings banks, which it has organized in negotiable debentures of the building and financial corporations mentioned in the preceding paragraph.

ART. 7. The insurance counter, in case of death, which was instituted by the law of July 11, 1868, is authorized to enter with purchasers or builders of cheap tenement houses who pay the price of their dwellings by means of annuities, into temporary contracts of insurance destined to guaranty at the death of the insured, should the same take place within the appointed number of years; the payment of the annuities still unpaid.

The maximum figure of the insured capital can not be over the capitalized value at the rate of 4.27 per cent on the net revenue referred to in article 5.

Any person who shall sign a proposition for an insurance contract in the conditions of paragraph 1 of this article shall be bound to answer the questions and to submit to the medical examinations which may be prescribed by the policies. In case the proposition is rejected, no motive shall be given for said decision. The insurance shall come into effect immediately on signing the policy, notwithstanding any clause to the contrary.

The amount of the insurance shall be, in the case of the present article, transferable in its entirety under the conditions determined by the policies.

The duration of the contract shall be so established that no premium shall become due after the insured is 65 years old.

ART. 8. When an individual house, built under the conditions determined by this law, is found in a decedent's estate, if the said house is occupied at the time of the death of the purchaser or builder, by the decedent, the husband or wife or one of the children, the provisions of the civil code shall be altered as follows:

(1) If the deceased leaves descendants, partition may be deferred at the request of the husband or wife, or of one of the children during five years after the decease. In case there should be minors among the descendants, the partition may be deferred during five years from and after the time when the eldest of the minors shall become of age; provided, however, that the total delay, unless all should consent, can not exceed ten years. If the deceased leaves no descendants, partition may be deferred for five years after the decease at the request and for the benefit of the surviving husband or wife, if he or she should be coowner for one-half at least, and if he or she should be residing in the house at the time of the decease. In these several cases, the postponement of the partition is ordered by the justice of the peace under advice of the family counsel.

(2) Each one of the heirs and the surviving husband or wife, if he or she should be coowner of a house, shall be at liberty to purchase the said house according to valuation. When several interested parties wish to avail themselves of this right, preference shall be given, first, to the one whom the deceased may have designated, and, next, to the surviving husband or wife, if he or she should have at least a one-half interest in the property. All rights being equal, the question shall be decided by the majority of the interested parties. If no majority can be formed, lots shall be drawn to decide the question; if there should be any contest in regard to the valuation of the house, such valuation shall be made by the committee of cheap tenement houses, and approved by the justice of the peace; if either the majority should be called upon to decide to whom the house is to be granted, or if such question is to be decided by drawing lots, these proceedings shall be taken under the presidency of the justice of the peace, who shall make a report thereon.

ART. 9. The individual or collective houses destined to be let or sold, and those that shall be built by the interested parties themselves, shall be exempt from the ground tax and the door and window tax, provided said buildings should fulfill the condition prescribed by articles

1 and 5. Said exemption shall be granted for a year and renewed for five years after the completion of the house. It would, *ipso facto*, cease if, through transformations or additions, the property should lose the character of a cheap tenement house and should acquire a value superior to the legal maximum.

In order to obtain the right to enjoy the benefit of this present law, one shall produce, in the forms and within the time determined by article 9, paragraph 3, of the law of August 8, 1890, a petition which shall be examined and passed on in the same way as claims for exemption from or reduction of direct tax. Said petition may be annexed to the declaration required by the same article of the said law, from all owners who may wish to erect a building subject to the ground tax.

All such parts of the buildings mentioned in this article destined to be personally inhabited shall be counted in conformity with article 2 of the law of August 4, 1844, in order to determine the contributive share of the department in the personal tax, at the rate of one-twentieth of their actual rental from and after the third year after the completion of the buildings, the same as if said buildings were only exempt from the ground tax, as provided by article 88 of the law of the 3d of Frimaire, anno VII, in regard to houses newly built or rebuilt.

The corporations, whatever may be their form, which shall have for their exclusive object the building and sale of houses coming under this present law, are exempt from the tax established by article 1 of the law of February 20, 1849, according to the terms of the law of December 29, 1875.

The tax shall still be collected on the houses that may be managed by the corporation or let out by said corporation.

ART. 10. The deeds of sale of individual tenement houses built by charitable institutions, houses of retreat, or hospitals, building societies, or by private parties, either out of their own funds or with the assistance of the financial companies mentioned in articles 6 and 11, are subject to the stamp duties prescribed by the laws now existing. However, when the price shall have been made payable by annuities, collection of said duty may, on application of the parties, be effected in several equal fractions, provided, however, that the number of said fractions can not exceed the number of annuities specified in the deed, nor be superior to five. The purchaser shall produce, to show his quality, a certificate of his residence from the mayor. It shall also be certified by the mayor of the commune where the building is situated that the said building has been found exempt from the ground tax by application of articles 5 and 9, or that, at least, the petition in view of said examination was presented under the conditions required in these articles. These two certificates shall be delivered without cost, each in duplicates, of which one shall be annexed to the deed of sale and the other deposited at the recorder's office at the time of recording the deed.

The payment of the first fraction of the duty shall be made at the time of recording the deed. The other fractions shall become due from year to year, and shall be paid within three months after they become due in each year, so that the whole duty shall be paid within four years and three months at the most from the date of recording the deed.

If the petition for exemption from the ground tax, which was used as a ground to require the payment of the duty by fractions, should be definitely rejected, all dues not yet paid shall be immediately recovered.

In case the purchaser should anticipate payments and settle completely his purchase price before the whole of the duty has been paid, such portion thereof as may remain due shall be payable within three months of the final settlement. The purchaser and the vender are severally liable for the duty.

The deeds mentioned in this article shall be recorded within the prescribed time and as occasion may arise, under the same penalty as determined by the laws. Any delay in paying the second of the following fractions of the duty shall render all sums remaining due to the treasury payable immediately. If the sale should be canceled before complete payment of

the duty, all fractions paid or due for more than three months shall remain in the treasury; the others shall be abandoned.

The cancellation of the deed, either voluntary or judicial, shall only be subjected to the fixed tax of 3 francs.

ART. 11. All documents necessary for the constitution and the dissolution of building or financial associations now extant or that may be created, as are defined in the present law, shall be exempt from stamp duty and recorded without charge, provided they shall fulfill the conditions prescribed by article 68, paragraph 3, No. 4, of the law of the 22d Frimaire, anno VII. Powers of attorney in view of representation at the general meetings shall be exempted from stamp duties. However, these associations remain subject to stamp duties, in regard to their share and debenture certificates, as well as to the receipt stamp established by article 18 of the law of August 23, 1871.

These associations shall have the benefit of these exemptions and of the other favors granted by the law, provided only that their articles of association, approved by the competent minister under the advice of the superior council created by article 14, shall limit their dividends at a maximum figure.

ART. 12. The subscription in lieu of stamp duty which said societies may have contracted for the shares shall not be reduced, however much the society capital may be; but in case of new shares being issued, the stamp duties shall remain the same as they were as long as the capital previously covered by the subscription shall not have been exceeded.

ART. 13. These societies shall be exempt from all license. They are likewise exempt from the income tax in regard to shares and parts of interest, provided that the by-laws prescribe that the said shares and parts of interest should be registered, and that this will apply only to such shareholders whose contributive payments, as stated in the last inventory, shall not exceed 2,000 francs.

Associations now extant shall enjoy in the same way as those that may be founded after the promulgation of this law the same exemption and the other favors or annuities which this law confers, on the condition that they shall amend their articles of association, if occasion requires, in conformity with provisions of said law.

ART. 14. There shall be constituted, as a dependence of the Ministry of Commerce and Industry, a superior council of cheap tenement houses, to which all regulations to be made under this law and, generally, all questions concerning cheap tenement houses shall be submitted.

Local committees shall send to said council every year, in the month of January, a detailed report on their work. The superior council shall sum up these and include them with its remarks in a general report addressed to the President of the Republic.

ART. 15. Regulations of public administration shall determine (1) the proper steps to be taken in order to insure the performance of the prescriptions hereinbefore stated, and particularly the organization and the working of the superior council of cheap tenement houses and of the local committees; (2) the provisions that should be inserted in the articles of association of building and financial associations in order to entitle said associations to the benefit of this law; (3) the conditions under which the *caisse d'assurance* in case of death may organize temporary insurance contracts; (4) the procedure to follow for the application of article 8.

ART. 16. This law will be applicable to Algeria.

This law having been discussed and adopted by the Senate and by the Chamber of Deputies, shall be executed as a law of the State.

RECOMMENDATIONS TO THE NEW YORK LEGISLATURE.

The foregoing consular reports having been considered, together with other data upon the subject, the tenement-house committee, on the 16th of

January, 1895, submitted a report to the New York legislature making the following recommendations:

(1) *Destruction of unsanitary buildings.*—That power be given to the board of health to institute condemnation proceedings for the destruction of buildings which are so unsanitary as to be unfit for human habitation, with provision for reasonable compensation to the owners in case of such destruction.

Nothing is more clearly shown in this report than the necessity, in the interests of the public health, of destroying under due process of law the oldest and worst tenement houses in the city.

Under existing laws, the board of health is unable to compel the destruction of tenement houses which, in their opinion, are so unfit for human habitation that no repairs or renovation can remedy the evils which they cause. Such buildings can not now be thus destroyed unless they amount to a nuisance, in which case the owner receives no compensation. This committee has consequently drawn a bill providing for the condemnation of such buildings, and for the payment of compensation to the owner thereof in case of their destruction. This bill has been modeled upon a similar statute which has worked satisfactorily in Great Britain. It expressly provides that no compensation shall be given on account of any increase in the rental of a building because of its overcrowding or use for illegal purposes; that in case such a building is in a state of defective sanitation, or is not in reasonably good repair, the amount estimated as its value shall be what it would have been worth if put into a sanitary condition and reasonably good repair, after deducting the estimated expense of such improvement; and that in case the building is unfit and not reasonably capable of being made fit for human habitation, the amount of compensation shall not exceed the value of the materials.

(2) *Construction of tenement houses hereafter to be built.*—That the construction of tenement houses be improved so as to afford more light and air to their inhabitants and greater security from fire; and that the present law be amended by depriving the board of health and the building department of the power to dispense with the requirements concerning the amount of open space to be left on the lots where they are constructed; and that no tenement or lodging house subsequently constructed shall occupy more than 70 per cent of an interior city lot, nor more than 90 per cent of a corner lot, and that, in computing the amount of the lot covered by building, all shafts or courts of less than 25 square feet in area shall be considered as part of the solid building and not as part of the free-air space.

Also, as to details, as follows:

(*a*) That no shaft or court hereafter constructed in a tenement house, except elevator shafts or staircase wells, shall be covered with a roof, skylight, or otherwise.

(*b*) That the walls of all shafts or courts hereafter constructed in tenement houses shall be fireproof.*

(*c*) That, in all tenement houses hereafter constructed, the first floor over the cellar or basement shall contain no openings into the body of the house, and shall be fireproof.

(*d*) That, in all tenement houses hereafter constructed an open area shall be constructed from the level of the sidewalk in front of and extending the full width of the house, which shall contain a staircase to give access to the cellar from the street, with a proviso that these provisions concerning the openings in and access to the cellars and basements shall not apply to fireproof structures nor to buildings of more than 25 feet in width, of five stories or less, with no more than one suite of rooms on a floor.

(*e*) The dumb-waiters and elevators or lifts in all tenement houses hereafter constructed which are not fireproof, shall be located on the exterior walls and shall have no opening into the cellar, and shall be separated from the cellar by solid brick walls and from the other stories of the house by fireproof walls. The openings to the elevators or lifts in the stories above the cellar to be provided with fireproof doors hung to metal frames; with a proviso that this shall not apply to elevators operated by a conductor stationed within the car, which, however,

* This is, in fact, covered by requirements of existing building laws.

if they run to the cellar, must be inclosed there with fireproof walls and have their cellar door fireproof, hung in a metal frame, and self-closing.

(*f*) That, in all tenement houses hereafter constructed, all partitions shall be solid and all staircases fireproof, except staircases in buildings not more than 25 feet wide, which are not more than five stories high and which contain but one suite of rooms on a floor.

(*g*) That no fanlight or window shall be hereafter placed in the partition or wall between the hall of any tenement house which is not fireproof, and any room in the same.

(*h*) That, in all tenement houses hereafter constructed, each room must have a separate window opening into the outer air; and

(*i*) Each water-closet must have a window opening into the outer air, and the floor of each water-closet must be made waterproof, so that it can be washed or flushed without leaking.

A bill embodying all these recommendations has been prepared, and in the opinion of this committee—for reasons stated more fully in a previous part of this report and also in the supplement to the same—these provisions will greatly decrease the danger from fire, as well as promote the health of the inhabitants of tenement houses by securing more light and better ventilation, without greatly increasing the cost of construction. The present laws require, in all tenement houses five stories and more in height, that the first floor shall be fireproof, though it may be pierced by a staircase or otherwise.

The committee finds that the laws relating to tenement houses and lodging houses in the city of New York prescribe that no tenement houses or lodging houses in this city upon an ordinary lot shall occupy more than 65 per cent of the said lot, and in the same proportion if the lot be greater or less in size than 25 by 100 feet; but this provision shall not apply to corner lots, and may be modified or changed in special cases as to lodging houses by the department of buildings.

Section 667 of the same law, as amended by chapter 329 of the laws of 1892, also prescribes as follows: "The board of health shall have authority, within present provisions of law, to make other regulations than the foregoing in special cases as to the proportion of any lot to be covered by any tenement or lodging house * * * light and ventilation * * * when it shall be satisfied that such regulations will secure equally well the health of the occupants and the public health, provided, however, that in all such cases any modifications made by such regulations shall be in accordance with the conditions of a permit in writing issued by the said board of health." Your committee finds that under this discretionary power the area of tenements erected on 25-foot lots has been increased from 75 to 80 per cent of the lot.

(3) *Prevention of fire.*—That further precautions be taken to decrease the danger from fire in tenement houses already constructed; that for this purpose a law be passed forbidding, after the 1st day of September, 1895, (*a*) the storage in any tenement house of feed, hay, or straw; (*b*) the maintenance after that date of any bakery or place of business in which fat is boiled in any tenement house more than three stories in height, in which more than two families live on one floor, and which is not fireproof; (*c*) that after said date all openings into the halls or other parts of the tenement houses from bakeries or places of business in which fat is boiled shall be solidly closed with fireproof material, so as to prevent the escape of fire and smoke from them into other parts of the house; and (*d*) that after the same date all transoms and windows opening into halls from any portion of any tenement house where paint, oil, spirituous liquors or drugs are stored or kept for sale shall be removed and closed up as solidly as the rest of the wall, and all doors leading into any such hall or room from a place thus used in a tenement house shall be made fireproof.

The number of fires in tenement houses which are started in bakeries and other places of the character above described is a fact which deserves attention by the entire community, as well as by the legislature. The "cruller fire," or fire started by the spilling of fat used in the cooking of crullers, has become a byword among fire-insurance men and other experts. It has been urged upon the committee that where any business whatever is conducted in the

basement or first floor of any tenement house the wall into the hall should be closed solidly, not only as to transoms and windows, but as to doors also. The committee is not prepared to ask for such a radical measure, but has deemed it important to recommend the regulations herewith presented, in view of the fact that while tenement houses constitute less than one-third of the buildings in the city, they supply more than one-half of the fires. A bill has been drawn, which, it is believed, will not unduly interfere with the transaction of any business of the character mentioned or with the wants of the community.

(4) *Height of basement ceilings above ground.*—That ceilings of all basements occupied as human habitations be at least 2 feet above the level of the ground adjoining.

Such a bill has also been prepared. While in cellars or basements the moisture from rainfall may be confined, in a large measure, by concrete walls and tight flooring, yet even when these are in place a certain amount will penetrate them. When people live constantly in a moist atmosphere, and especially when they sleep in a place where they are exposed to moisture, there is a tendency among them to certain forms of disease. Ventilation of basements both supplies the fresh air necessary to carry on the proper functions of life and carries off the moisture which would otherwise do injury. Experience proves that while the air will renew itself in basements having ceilings one foot above the sidewalk, there is not sufficient volume of it in movement, and every foot added to this height increases the volume of air in movement.

The present provision of the law permitting the occupancy of basements, the ceilings of which are but one foot above the level of the sidewalk, also fails to afford sufficient sunlight to enter the premises.

(5) *Removal of wall paper.*—That no wall paper shall be used in any tenement or lodging house subsequently constructed, and that wall paper now on walls or ceilings of any tenement or lodging house shall be removed within sixty days after the passage of an act for that purpose, the board of health to have power to make exceptions in certain specified cases.

Such a bill has been drawn by the committee, with a provision authorizing the board of health to permit wall paper to be used in the better class of apartment houses, or in houses in which not more than one family occupies the same floor, or in apartments which contain more than three rooms.

It is the opinion of sanitary experts that wall paper attracts dirt and germs of disease, that it is hard to clean and to disinfect, and tends to harbor vermin.

(6) *The lighting of halls.*—That the owners of houses in which the halls are not sufficiently lighted from without shall be compelled to supply in such halls sufficient artificial light, and that the halls of all tenement houses, upon each floor, shall be lighted until 10 o'clock at night.

The testimony taken and examinations made by this committee have satisfied it that the darkness of the halls of the tenement houses at night and the darkness by day of the halls without windows in many tenement houses have promoted the accumulation of filth and of germs of disease; have been a frequent cause of accidents, and have also facilitated immorality and crime. The darkness of halls is also a serious danger in case of fire. For this reason the committee has drawn a bill which provides that in every tenement or lodging house the owner or lessee shall keep a light burning in the hallway upon each floor from sunset to 10 p. m., and that in every tenement house in which there is a hallway without a window a light shall also be maintained by the owner or lessee in such hallway between the hours of 8 a. m. and 10 p. m. Laws requiring lights throughout the night in corridors and on staircases in hotels, boarding and lodging houses, are in force in Massachusetts, and similar laws exist in other States. In this State laws and local regulations are in force requiring red lights in hotel corridors.

(7) *Overcrowding.*—That the law be amended so as to make it mandatory upon the board of health to prevent the overcrowding of tenement houses, so that at least 600 cubic feet of air shall be afforded to each occupant of a room in such tenement house, instead of leaving the same discretionary with the board of health, as is the case at present.

This provision is obviously desirable, and with an increased force at the disposal of the board, this work can be done more effectively. Such a bill has, therefore, been prepared.

(8) *The use of tenement houses for lodging houses, stables, and for storage and handling of rags.*—That the board of health shall not be permitted, under any circumstances to allow a tenement house to be used as a lodging house, stable, or for the storage or handling of rags.

These uses of a tenement house are all liable to cause the spread of contagious diseases, and the board of health desires to be relieved of the responsibility attaching to its present authority to make exceptions to the law forbidding such uses of tenement houses. Accordingly, this committee has drafted such an amendment to the existing law upon the subject.

(9) *Discretionary powers of the board of health.*—That the discretionary powers of the board of health in regard to tenements and lodging houses be restricted so that they shall only apply to cellars and ventilation and permission as to private schools in tenement houses; and, in certain cases, as to the use of wall paper in tenement houses and only to regulations concerning these which are consistent with the other provisions of the act.

It is the opinion of this committee that the amendment to section 667 of the consolidation act by chapter 329 of the laws of 1892 was unwise. Said amendment gave the board of health discretionary power to nullify most of the provisions of the title of the consolidation act in relation to tenement and lodging houses by dispensing with their execution in certain cases. It seems to this committee that section 667, as originally enacted, gives quite sufficient power in this respect to said board.

Section 667, as originally enacted, is as follows: "The board of health shall have authority to make other regulations as to cellars and as to ventilation consistent with the foregoing, where it shall be satisfied that such regulations will secure equally well the health of the occupants."

The amendment is as follows: "The board of health shall have authority, within present provisions of law, to make other regulations than the foregoing in special cases as to the proportion of any lot to be covered by any tenement or lodging house, as to cellars, supply of water above the first floor in any house and the providing of fixtures therefor, light and ventilation, and the use of building or premises occupied for a tenement house for a school or stable or for storage of rags, when it shall be satisfied that such regulations will secure equally well the health of the occupants and the public health; provided, however, that in all such cases any modifications made by such regulations shall be in accordance with the conditions of a permit in writing issued by the said board of health."

This committee, consequently, advises the amendment of section 667 by the enactment of its original language, and has drafted such a bill. The committee, however, suggests, as stated above, the continued power to permit private schools in tenements.

(10) *The filing of owner's name.*—That the present law requiring the owner and every person having control of a tenement or lodging house to file in the department of health a notice containing his name and address and description of property be amended so as to make the same more easy of enforcement.

A bill for this purpose has also been prepared, and the committee further recommends that the board of estimate and apportionment appropriate annually to the use of the board of health sufficient funds for the employment of a special clerk to record and index the notices thus filed. (This subject is fully discussed in that part of this report concerning the recommendations of the commission of 1884.)

(11) *Increase of the health board's inspection force.*—That fifteen additional sanitary inspectors be added to the force of the health department; and that five more sanitary police be detailed from the police department to the health department, and that all police officers hereafter detailed from the police department to the health department be selected for their peculiar fitness from among those who shall pass a civil service examination by the supervisory board of commissioners of the New York municipal civil service.

The larger part of the work of this committee, and especially of the house-to-house examinations by its agents, tends to show the absolute necessity of such an enlargement of the

force of inspection of the New York board of health, and a law to that end is herewith submitted. It is necessary not only that the law should be obeyed which requires two semi-annual inspections of tenement houses, but that the inspections should be virtually continuous.

(12) *Small parks, with playgrounds.*—That within the next three years not less than two small parks, a part of each of which shall be constructed as public playgrounds, shall be laid out and begun in the district east of the Bowery and Catharine street and south of Fourth street, and that the city be authorized to issue its bonds to the amount of $3,000,000 for such purpose.

In the part of the city thus designated as most urgently in need of the benefits of small parks and of playgrounds dwells, as already stated, a population of 324,000 persons. Each point of the circumference of this tract is not less than 500 feet from any existing or proposed park, and 750 feet from either the North or East rivers. The exact district in which the committee believes the first additional small parks should be constructed has an area of 402.16 acres, with 248,908 inhabitants. In a portion of this latter district (Sanitary District A, Ward 11) the density is double that of the most crowded part of any other city in the civilized world; and over its entire extent the density reaches the extraordinary figure of 619 to the acre.

This committee presents a bill compelling the board of street opening and improvement to locate and begin the construction of such parks within three years, and the appropriation of $3,000,000 to be raised by bonds for that purpose. The bill permits schoolhouses and municipal bath houses to be erected on these especial parks. Another bill further provides that such additional bonds be issued as may be necessary for the completion of the park at Mulberry Bend, and further provides for expenditures necessary to complete the two other parks already undertaken under the small parks act. The bill does not abridge the right of the city to expend $1,000,000 annually under the small parks act.

(13) *School playgrounds.*—That no school building shall be hereafter erected without the same being provided with a good and sufficient playground or playgrounds of a size proportionate to the number of scholars in said school; and that as rapidly as possible proper and sufficient open-air playgrounds be attached to the schools now existing.

The committee urges in the strongest possible way that playgrounds be provided for the children attending the public schools. It is well known that to enable children to undergo the physical strain imposed on them while getting their education, exercise is necessary. The various outdoor games involving exercise are all health giving, as exercise taken in the open air is much more valuable than that taken indoors. The natural instincts of children all tend to the direction of physical amusement, but we can not expect them to get the full benefit of the play hour by running about in dark basements. These are their only playgrounds in many of our public schools, while in most of the schools, where so much of the time of children is spent, the facilities for exercise are utterly inadequate. What is needed is at least one large playground attached to each school, and provision for this in future schoolhouses is contained in one of the bills herewith submitted.

The following recommendations, with the exception of the final one, are not accompanied by bills:

(14) *Rapid transit.*—That, as one of the principal means of prevention of overcrowding of houses and districts, rapid-transit facilities be pushed forward as vigorously as possible.

Through the peculiar geographical shape of Manhattan Island and its water boundaries on two sides of a large triangle, great benefits accrue to the residents from a sanitary standpoint, owing to the abundant fresh air and excellent facilities for drainage through the North and East rivers. But the crowding of population described in various parts of this report, while it can be dealt with favorably by several methods herewith suggested, can, it is believed, be more effectually remedied by a sufficient system of rapid transit than in any other way.

(15) *Municipal bathing establishments.*—That, in addition to the free floating baths maintained in the summer months, the city should open in the crowded districts fully equipped bathing establishments, on the best European models, and with moderate charges.

The committee makes the above recommendations in the interests of the public health. Hundreds of thousands of our population are without sufficient bathing facilities, while it is evident that the bathing habit increases among them in proportion to the opportunities afforded. The baths now maintained by benevolent organizations at small charges are principally rain baths. The bathing habit abroad has been greatly increased, owing to the popularity of the swimming baths, and it is believed that municipal establishments here will be more successful in accomplishing their purposes if swimming baths be included in their arrangements.

(16) *Drinking fountains and lavatories.*—That numerous drinking fountains and sufficient public lavatories be established in the tenement-house districts.

The most crowded districts of the city are destitute of such ordinary conveniences, and the same should be promptly provided. In foreign cities, as appeared in the testimony at the public hearings, lavatories of an elaborate character have been built, with accommodations for which moderate charges are made.

(17) *Electric lights.*—That the electric light be extended as rapidly as possible throughout all parts of the tenement-house districts.

The committee believes that great good would result from the extension of the electric-light system throughout the whole city. It is beyond question that nothing tends so much to prevent crime in the streets as abundance of light. While some portions of the city are fully lighted at night, others exist where sufficient artificial light is not provided; and the criminal records show that the majority of crimes against the person take place in the latter sections.

(18) *Extension of smooth pavements.*—That the system of asphalt pavements be extended as rapidly as possible throughout the streets of the tenement-house districts of the city.

It would seem that this style of pavement is of all others the easiest to keep clean, owing to its smoothness. Traffic through the streets on which tenement houses are built is not, as a rule, heavy enough to require the more solid pavement of stone. In the latter pavement, while it will stand more heavy trucking than any other, there are small cracks or interstices between the granite blocks, and in these dirt and other matter lodges in such a manner as to prevent the mechanical sweeps from removing them. Most of the material found in street sweepings, especially in tenement districts, is composed of animal and vegetable matter, containing microorganisms of pathogenic character. Not only can asphalt pavement be thoroughly swept, but when necessary, as in times of threatened epidemic, it may be washed as clean as the floor of a house. It was stated by a witness before the committee that an objection to the asphalt system had been made on the ground that, owing to the absence of noise when carts or wagons are driven over it, children playing in the streets are not warned of the approach of these vehicles, and are, therefore, in danger of being run over. The committee has considered this reasoning carefully, but it finds itself unable to attach any great importance to the objection. This very absence of noise is one of the greatest advantages of the system, especially in the more crowded tenement-house districts.

(19) *Schoolhouses and kindergartens.*—That a thorough inquiry be made as to the condition of the older schoolhouses in New York, and as to the sufficiency of school accommodations in general; and that the number of kindergartens be largely increased in connection with the public-school system.

From information obtained from the Bureau of Education at Washington, and from direct correspondence with boards of education throughout the country, the committee learns that in one hundred and eighty communities of the United States kindergartens are at the present moment maintained either by the State or local authorities, and in one hundred and sixty-two communities they form a part of the local public-school system. Outside of the normal college, the city of New York sustains but seven kindergartens, with one hundred

and ninety-one pupils. Eleven cities in the country maintain more kindergartens than are connected with the public schools of New York. Rochester, in this State, has more than New York, and there are nearly twice as many in Albany, while such cities as Milwaukee, Philadelphia, Boston, and St. Louis have each from over forty to eighty-four kindergartens. From every city where the committee has made inquiries comes strong indorsements of the system, and there is a constant increase in the number of kindergartens. There is no city in the country with greater need for kindergartens than New York, and there are few of the larger cities so poorly supplied with them.

(20) *Prostitution in tenement houses.*—That a law be passed making the offenses of soliciting and the maintenance of houses of prostitution in tenement houses punishable with greater severity than when they are committed elsewhere.

The reasons for this recommendation are given in full in the report of the secretary, and in some of the testimony at the public hearings.

(21) *Commission on tenement houses.*—That the present tenement-house board, consisting of certain city officials, be abrogated, and that special commissions, with full powers of examination and recommendation, be constituted by the legislature at intervals of not more than five years.

The committee is informed that the board, which was created in pursuance of the recommendation of the tenement-house commission of 1884, has failed to meet regularly; and, in fact, few recommendations have been made by them, though an interesting report was by them issued during Mayor Hewitt's term. The individual *ex-officio* members of the commission can effectively improve tenement-house conditions simply by doing their duty in executing the existing laws. The committee is of the opinion that a permanent commission for the purpose of recommending changes in the law, which they have no power to enact, is an anomaly in our jurisprudence. Experience has proved its inefficacy; and it is consequently recommended that this law be now repealed, and the committee has prepared a bill to that effect. It suggests in its place, that another statutory commission upon the subject be created by the legislature every five years. There is no civic problem so difficult or of such vital importance to the health and morals of the people of the city of New York.

R. W. GILDER, *Chairman.*
CYRUS EDSON,
ROGER FOSTER,
SOLOMON MOSES,
GEORGE B. POST,
JOHN P. SCHUCHMAN,
WILLIAM D'H. WASHINGTON.
EDWARD MARSHALL, *Secretary.*

THE NEW TENEMENT-HOUSE LAWS.

All those recommendations of the tenement-house committee of 1894, which were embodied in bills and presented to the legislature along with the report of the committee on January 17, 1895, have now become laws, the last of the bills having been signed by Governor Morton on May 9, one year from the time the committee was appointed.

The following statement has been prepared in order that the public may understand what has been accomplished toward carrying out the recommendations of the committee:

* * * * * * *

Mulberry Bend Park, etc.—The first bill to pass (chapter 69, of the laws of 1895) provides for the necessary unpaid payments—about $2,000,000 to date—on account of Mulberry Bend, East River extension, and St. John's Cemetery parks. The park board is proceeding with the work at Mulberry Bend. The establishment of this park, which was begun under Mayor Hewitt's small parks act of 1887, will be the means of promptly destroying some of

the worst tenement houses in the city. The park will furnish a much-needed breathing place for a greatly overcrowded tenement-house neighborhood.

Small parks and public playgrounds on the East Side.—The second bill to become a law (chapter 293), provides for the expenditure of $3,000,000 for new small parks in that part of the city of New York found to be the most overcrowded district in the world—namely, the district east of the Bowery and Catherine street and south of Fourth street. These parks must be located and begun within three years. A part of each park must be finished as a public playground, and the law permits schoolhouses with school playgrounds, as well as municipal bath houses, to be erected on these parks. The park department has already begun to consider the locality of these parks, and the board of education and board of health are conferring with the park board on the subject. The president of the park board will before long bring the matter to the attention of the board of street opening and improvement, by which the work must be begun.

Open-air playgrounds for the public schools.—Chapter 388, dated April 17, was the third bill to become a law. It provides that "hereafter no school shall be constructed in the city of New York without an open-air playground attached to or used in connection with the same." The board of education in purchasing grounds for new schools has already begun to purchase additional strips of land for the above purpose, under the provisions of the act.

Increase of sanitary inspectors.—The fourth bill to become a law is chapter 567 of the laws of 1895. It was signed on the 9th of May, and it will be in full operation by the 1st of June, 1895. This is the longest bill, and covers a number of subjects in connection with tenement houses. This bill places the work of the sanitary inspection of the health department upon a better basis. The department, of late, has not been able to do the work actually required by law. Fifteen are hereby added to the list of sanitary inspectors and five to the list of sanitary police.

The sanitary police placed under civil-service rules.—No policeman can hereafter be transferred from the regular to the sanitary force without first passing a civil-service examination as to his peculiar fitness, the examination to be conducted by the municipal civil-service board.

More light and air in basements.—The ceilings of occupied cellars or basements must be 2 feet above the surface of the street or ground adjoining, instead of one foot.

Safeguards against fire in existing tenements.—The committee having found that 53 per cent of the fires of New York occur in tenement houses, which number only 31 per cent of its buildings, and having furthermore discovered that more fires occur on the first floor of tenements than on any other floor, procured the enactment of the following in the same law (chapter 567): After the first day of September, 1895, unless the place where fat is boiled in any tenement house is made safe by fireproof ceiling and side walls, or unless the tenement house is fireproof, the fat boiling can not be carried on on the premises except by permit of, and under such conditions as may be prescribed by, the fire department.

After the same date no part of any tenement house may be used for the storage of feed, hay, or straw, except by permit of, and under such conditions as may be prescribed by, the fire department.

After the same date all transoms, windows, doors, or other openings leading into halls or into rooms opening into halls from places in which fat is boiled in the basements, cellars, or on the first floors of all tenement houses must be solidly closed with the same material as the walls or partitions in which the openings exist.

After the same date, all transoms opening into halls from any portion of the tenement house where paint, oil, spirituous liquors, or drugs are stored, must be removed and closed up as solidly as the rest of the wall; and all doors leading into any such hall or room from such portion of a tenement house thus used must be made fireproof.

Regulation as to the use of wall paper.—Hereafter no wall paper can be placed upon a wall or ceiling of a tenement or lodging house upon any old paper. All wall paper must be first removed and the wall or ceiling thoroughly cleaned. This is a valuable sanitary

measure, based upon the observation and experience of the health department and upon the committee's investigations.

The filing of the names of owners.—The law furthermore strengthens the existing law with relation to the filing of the names of owners of tenement and lodging houses. In case of a transfer of the same, the grantor and grantee must file in the department of health a notice of such transfer, stating the name of the new owner, within thirty days after such transfer. In case of the devolution of the property by will, the executor and devisee, if more than 21 years of age, and in case of the devolution of such property by inheritance without a will, the heirs or guardians or administrators of the deceased owner must file in the department a notice, stating the death of the deceased owner and the names of those who have succeeded to his interest within thirty days after the death of the decedent or after the probate of his will. A failure to file such notice shall make said property and the owners thereof liable to a penalty of not less than $10 and not more than $50.

Condemnation of unsanitary buildings.—A novel and important clause of the new law is that relating to the condemnation of unsanitary buildings. It is based upon English legislation and experience. The clause reads as follows: "Whenever, in the opinion of the board of health of the health department of the city of New York, any building or part thereof in the city of New York, an order to vacate which has been made by said board, is, by reason of age, defects in drainage, plumbing, infection with contagious disease, or ventilation, or because of the existence of a nuisance on the premises, which is likely to cause sickness among its occupants or among the occupants of other property in the city of New York, or because it stops ventilation in other buildings, or otherwise makes or conduces to make other buildings adjacent to the same unfit for human habitation or dangerous or injurious to health, or because it prevents proper measures from being carried into effect for remedying any nuisance injurious to health or other sanitary evils in respect of such other buildings, so unfit for human habitation that the evils in or caused by said building can not be remedied by repairs or in any other way except by the destruction of said building or of a portion of the same, said board of health may condemn the same and order it removed, provided the owner or owners of said building can demand a survey of said building in the manner provided for in case of unsafe buildings, and may institute proceedings in the supreme court, in the county of New York, for the condemnation of said building. Said proceedings shall be instituted and carried on in the manner prescribed by the code of civil procedure, except as modified by this act. Upon the institution of said proceedings, the owner of said building, or any person interested therein, may in his answer dispute the necessity of the destruction of said building or part thereof, as the case may be. In such case, the court shall not appoint commissioners unless proof is made of the necessity of said destruction. In such proceedings, evidence shall be receivable by the commissioners to prove:

"(1) That the rental of the building was enhanced by reason of the same being used for illegal purposes, or being so overcrowded as to be dangerous or injurious to the health of the inmates; or

"(2) That the building is in a state of defective sanitation, or is not in reasonably good repair; or

"(3) That the building is unfit, and not reasonably capable of being made fit, for human habitation; and, if the commissioners are satisfied by such evidence, then the compensation (*a*) shall, in the first case, so far as it is based on rental be based on the rental of the building, as distinct from the ground rent, which would have been obtainable if the building was occupied for legal purposes, and only by the number of persons whom the building was, under all the circumstances of the case, fitted to accommodate without such overcrowding as is dangerous or injurious to the health of the inmates; and (*b*) shall in the second case be the amount estimated as the value of the building if it had been put into a sanitary condition, or into reasonably good repair, after deducting the estimated expense of putting it into such condition or repair; and (*c*) shall in the third case be the value of the materials of the buildings.

"Nothing in this section contained shall repeal any part of section 535 of this act or impair any of the powers thereby vested in the board of health."

Limitation of area that may be covered by a tenement or lodging house.—With regard to new buildings, the old proportion of 65 per cent of the area of a lot which may be occupied by a tenement or lodging house is kept; but whereas heretofore there has been an option on the part of the building department to increase the area without any named limit, the custom being to stop at 78 per cent, the present law provides that no one continuous building hereafter constructed shall be enlarged or altered, or its lot be diminished, so that it shall occupy more than 65 per cent of the area of said lot, but where the light and ventilation of such tenement or lodging house are, in the opinion of the superintendent of buildings, materially improved, he may permit the building to occupy an area not exceeding 75 per cent of the lot, and in the same proportion if the lot be greater or less in size than 25 by 100 feet; but this provision does not apply to corner lots, in which, however, no such building hereafter constructed, above the first story, shall occupy more than 92 per cent of the area of a lot, but the building must not come within 5 feet of the rear of the lot above the first story—a gain of one foot of open space.

Improved construction of future tenement houses.—Other highly important details of the law as to the construction of future tenements are as follows: "In computing the amount of the lot covered by a building, any shaft or court of less than 25 feet square in area shall be considered as part of the building and not as part of the free-air space. No shaft or court hereafter constructed in a tenement house, except elevator shafts or staircase wells, except any shaft the area of which does not exceed 10 square feet, shall be covered with a roof, skylight, or otherwise. In all tenement houses hereafter constructed or buildings hereafter converted to the purposes of a tenement house, the stairway communicating between said cellar or basement and the floor next above when placed within any such building shall be located to the rear of the staircase leading from the first story to the upper stories and be inclosed with brick walls, and such stairway shall be provided with fireproof doors at the top and bottom of said flight of stairs; an open area shall be constructed from the level of the cellar to the sidewalk in front of and extending the full width of such houses, which shall contain a staircase to give access to the cellar from the street. Where stores are located on the first floor the area may be covered with suitable vault lights or gratings. In all tenement houses hereafter constructed or buildings hereafter converted to the purposes of a tenement house, the openings to the elevators or lifts in the cellar and at every opening on every story shall be provided with self-closing fireproof doors. This provision, however, shall not apply to such elevators in tenement houses which are operated by a conductor stationed within the car, but if such elevators run to the cellar, they must be inclosed in the cellar with fireproof walls, and the door to the cellar, if any, must be fireproof and self-closing."

After providing that all tenements with four or more families on a floor must have fireproof staircases, the law continues:

"Every tenement house hereafter constructed or buildings hereafter converted to the purposes of a tenement house, which building exceeds three stories in height or has basement with three stories above the cellar, shall have the entrance hall and entire stair well and stairs built of such slow-burning construction or fireproof material as the superintendent of buildings shall decide; also, no wainscoting shall be allowed in the main halls except of cement or other fireproof material, excepting that the hand rails and balusters can be of hard wood. At least one flight of such stairs shall extend to the roof and be inclosed in a bulkhead building of fireproof material. On second floor of all tenement houses not fireproof throughout all entrances from stairs to halls shall be closed off with fireproof double-swing doors. It shall be the duty of the owner or lessee of such tenement house to have said door on second floor closed every night at not later than 10 o'clock. No fanlight or window shall be hereafter placed in the partition or interior wall between the main and private halls of any tenement house which is not fireproof and any room in the same. In all tenement houses hereafter constructed and buildings hereafter converted to the purposes of a tenement house, each room must have a

separate window opening into the outer air; each water-closet must have a window opening into the outer air; the floor of each water-closet must be made waterproof with asphalt, cement, tile, metal, or some other waterproof material, and such waterproofing must extend at least 6 inches above the floor so that said floor can be washed or flushed out without leaking. The light and ventilation, for all buildings hereafter erected for or converted to the purposes of tenement or lodging houses, must be provided in accordance with the requirements of this title and the conditions of a plan and permit previously approved in writing by the superintendent of buildings, and no existing tenement or lodging house shall be enlarged or altered or its lot diminished without a similar permit. The superintendent of buildings is hereby empowered and directed to make rules and regulations not inconsistent with the requirements of this title, and which, in addition to the requirements of this title, shall be the conditions of approval for the plans and permits; these rules and regulations shall govern the arrangement and distribution of the uncovered area, size, lighting, location, and arrangement of shafts, rooms, cellars, and halls and may be modified or changed from time to time by the superintendent of buildings.

Tenement houses not to be used for lodging-house purposes, stables, or the storage of rags.—The law furthermore requires that no tenement house may be used for a lodging house, stable, or for the storage and handling of rags. No private school may be maintained in a tenement house unless by special permit of the board of health.

Dark halls to be abolished.—The following provisions relate to the lighting of hallways: "The owner or lessee of every tenement or lodging house in the city of New York shall keep a light burning in the hallway upon each floor of said house from sunset until 10 p. m. throughout the year. In every tenement house in the said city in which there is a hallway or hallways with no windows opening from such hallway outside of said house, a light shall be maintained by said owner or lessee in each such hallway between the hours of 8 a. m. and 10 p. m. of each day, unless said hallway shall be otherwise sufficiently lighted. The fire department of the city of New York is hereby vested with authority to prescribe reasonable regulations concerning such precautions as may be necessary to prevent danger from fire arising from such lights."

Overcrowding of tenement houses.—The law with regard to overcrowding now reads as follows: "Whenever it shall be certified to the board of health by the sanitary superintendent that any tenement house or room therein being without sufficient ventilation is so overcrowded that there shall be afforded less than 400 cubic feet of air to each adult and 200 cubic feet of air to each child under 12 years of age occupying such building or room, the said board shall issue an order requiring the number of occupants of such building or room to be reduced in accordance with this provision."

Relations of the health and building departments.—There are other technical provisions which touch upon the relations between the health and building departments, and are calculated to prevent friction between these departments.

The tenement-house water law declared constitutional.—In the report of the committee made to the legislature on January 17, it was stated that Trinity Church had resisted the enforcement of the law which was intended to provide an adequate water supply for domestic purposes on each story of tenement houses, and that this law, at the instance of Trinity, had been declared to be unconstitutional. An examination into the condition of some of the Trinity houses on the part of the committee was followed by immediate action upon the part of the board of health in the matter of their appeal in this case to the court of appeals at Albany. Mr. Roger Foster, of the tenement-house committee, was employed by the board, and procured a reversal of the opinion of the inferior court. The opinion of the court of appeals, as delivered by Judge Peckham, has placed all tenement-house legislation, including that procured by the committee of 1894, upon firmer ground.

Municipal baths, etc.—With regard to other general recommendations of the committee, it may be said that municipal baths for winter and summer are now being established by the city under a compulsory law, passed at the recent session of the legislature. The city gov-

ernment is also moving in the direction of additional drinking fountains and lavatories, and the school accommodations are being substantially increased.

In reviewing the work of the committee, which had to deal with very exceptional conditions, this principle (formulated by Mr. James Hole) should be borne in mind: "The greater the amount of population concentrated on a given space, the greater the precautions requisite to secure the health of the inhabitants."

Those features of the new laws which provide for the destruction of the worst tenement houses by the establishment of small parks, as well as by the new condemnation proceedings, should be of immediate utility in lowering the death rate. At the same time, the construction laws are of supreme importance, and these must be carefully guarded against the attacks of interested parties. Mr. G. V. Poor says in the preface to Worthington's Dwellings of the People, that "the most important duty of sanitary authorities is the control of building operations," for "it is better to prevent the erection of insanitary dwellings than to attempt the correction of their defects when built."

The undersigned has on other occasions acknowledged specifically the cooperation of various individuals and organizations in the accomplishment of the work of the tenement-house committee of 1894. He wishes now to express his sense of the great and decisive assistance rendered by the newspapers of this city in helping to procure the enactment of the laws described above.

R. W. GILDER.

NEW YORK, *May 18, 1895.*

COPPER ROLLS IN FRANCE AND RUSSIA.

The following reports, relative to the use of copper rolls for printing calicoes, silks, and other fabrics in France and Russia, were secured at the request of Massachusetts manufacturers, who desire to introduce their goods to the European trade.

FRANCE.

PARIS.

In accordance with instructions from the Department, I have secured all the information attainable relative to the market in France for copper rolls used for printing calicoes, silks, and other fabrics.

The chief works for printing fabrics are situated in the consular districts of Lyons, St. Etienne, and Roubaix. The industry in the consular district of Paris is comparatively unimportant. I append the addresses of the principal houses of this kind in this district: Abadie, 51 rue Meslay; M. Barrallon, 106 rue Vieille-du-Temple; Charles Berger, 8 rue de Sentier; P. H. Japuis, 16 rue St. Fiacre; Legrand Frères, 8 rue Ste-Foy; A. d'Herdt fils, 20 rue Compoise, St. Denis.

The copper rolls in use are supplied chiefly from Mulhouse, Alsace, by the house of Ducommun, which manufactures only the cylinders in brass. These are said to be employed in the printing works of France almost to the exclusion of the bronzed cylinders. The average price of these cylinders at the works in Mulhouse is 1.80 francs per kilogram (34.7 cents per 2.246 pounds).

The average duty on metal rolls for printing calicoes, silks, etc., is 20 francs per 100 kilograms ($3.86 per 220.46 pounds).

The Alsatian rolls are in such general use, and appear to have such a good reputation, that it would be necessary, I think, for American manufacturers to push their rolls very vigorously in order to introduce them. In the long run, the American article would undoubtedly secure the market if of superior quality and furnished at the same price.

SAMUEL E. MORSS,
Consul-General.

PARIS, *May 6, 1895.*

LYONS.

Most of the rolls used in Lyons are of French manufacture, although some are manufactured in Alsace. Those from Alsace are generally engraved there, and sent here ready for use by the printer.

The information asked for relates especially to rolls ready for engraving, as these are the articles manufactured by the American houses seeking this information, which they wish to introduce.

I can get no information as to the price at which English rolls are furnished, and have no knowledge of any being used in Lyons. The rolls used here are to-day quoted as follows: Rolls 1.1 meters in length (about 43 inches) and 96 millimeters in diameter (about 3¾ inches) at one end and 1 decimeter in diameter (about 3.9 inches) at the other end, sell for 185 francs ($35.70) per 100 kilograms (220.46 pounds). As the length of the roll is increased beyond 43 inches, the price increases at the rate of 5 francs (96½ cents) per 220 pounds for each 15 centimeters (6 inches) or fraction thereof. This is the quoted price of rolls not engraved, but ready for engraving delivered in Lyons.

As to the demand for such rolls and the market for them in Lyons, I have been unable to obtain any definite or reliable statement of the number of rolls in actual use. Lyons is a large consumer of these rolls for printing silks, and the number of rolls required is said to be very great.

FRANK E. HYDE,
Consul.

LYONS, *May 10, 1895.*

ROUBAIX.

I have been unable to find any English firms who are manufacturers of copper rolls doing business in this district. In fact, the printing of cottons and silks is an industry which does not exist in this district.

I have discovered, however, that copper rolls are used here in the manufacture of plushes with raised designs impressed upon their surface through

the action of rolls deeply engraved, but I have invariably found that those using these rolls order them through houses which do the engraving, these latter buying the unfinished rolls of the manufacturer. The engravers are generally located at Paris, and hence, I have had difficulty in reaching the manufacturer. However, a manufacturer of plushes here undertook to procure this information for me, *i. e.*, the names of firms manufacturing copper rolls, together with prices for same, and I transmit a translation of a letter received by him from a manufacturer of copper rolls located at Paris. I am informed that this manufacturer is the only one in France who has a plant capable of turning out these rolls.

STEPHEN H. ANGELL,
Commercial Agent.

ROUBAIX, *May 28, 1895.*

[Inclosure in Commercial Agent Angell's report.—Translation.]

COMPAGNIE FRANÇAISE DES MÉTAUX,
10 Rue Volney, Paris, May 18, 1895.

MESSRS. A. DENIS BENOIST & CO.,
Rue Corneille, Roubaix.

In reply to your letter of the 17th instant, we have the honor to quote you prices for copper rolls as follows: Copper rolls, 1,440 millimeters (56.7 inches) in length by 110½ to 179½ millimeters (4.33 to 6.89 inches) radius, 190 francs per 100 kilograms ($36.67 per 220.46 pounds), and brass rolls, 175 francs ($33.77); discount 3 per cent cash delivered at Roubaix for at least 100 kilograms. For larger quantities we would be able to reduce our prices.

Very respectfully yours,

J. DEVERIN,
Manager.

ST. ETIENNE.

I can find no trace of any English copper rolls for printing stuffs in this consular district. It seems that the rolls used here are chiefly supplied by manufacturers at Mulhouse (Germany), Belfort (France), and by a firm in Paris.

At St. Etienne, the printing on silk ribbons is entirely done by hand by means of wooden blocks, the reason for not using rolls being, I understand, that they are only available for four colors, whereas here, from six to seven colors are employed. Rolls, however, are much used in this district for frilling and watering silks (*moiré antique*), but they are made of different metals—copper, bronze, and cast iron. The price of the copper roll is 30 cents per kilogram (2.2046 pounds), of bronze, 46 cents, while the cast iron is much cheaper. Some of these rolls are manufactured here.

I have been told that if the American manufacturers desire to compete with German or other manufacturers, it will be necessary for them to establish a

well-stocked agency in all the large towns where the ribbon, cotton, and cloth industries prevail, and if the goods furnished possess a real advantage over those of other manufacturers, home or foreign, a fair business can be done.

In this consular district, no large orders for rollers are given at any one time; the firms ask for them only as they need a particular kind, and always in small quantities.

CHARLES W. WHILEY, JR.,
Consul.

ST. ETIENNE, *April 24, 1895.*

RUSSIA.

England has been supplying the Russian mills with copper rolls for printing calicoes, silks, and other fabrics for a long time, and had a monopoly of the business until the copper-rolling works of Rosenkranz were started, recently, at St. Petersburg. As soon as the St. Petersburg works perfected their rolls to such a degree that they could, with safety, compete, so far as material, workmanship, and fitness were concerned, with the English rolls, the Russian Government, to protect the new industry, imposed on that class of goods a high duty, one which, in fact, may be called prohibitory, and now scarcely any copper rolls for the above-mentioned purpose are imported either from England or elsewhere. The duty is 4.32 gold rubles ($3.33½, the gold ruble equaling 77.2 cents) per pood (36.112 pounds), with the further advantage that, if parties wish to send the Russian manufactured roller abroad for engraving, the roller, on its return, is permitted to enter free of duty. I was informed by the head of one of the largest printing mills in Russia (an English firm), that the Russian rolls equal the English in every respect, and that the Russian manufacturers watch the outside market so closely that as soon as a change takes place abroad they quote their prices accordingly, and make them so that foreign rolls are kept out.

Two kinds of rolls are mainly used here—the so-called kerchief and garment rolls. The prices are according to the dimensions, and, at present, are, $\frac{7}{4}$ kerchief rolls, 3 feet 4¼ inches long, 11½ inches outside diameter, 10½ inches inside diameter, tapering to $10\frac{5}{16}$ inches, 24 rubles per pood ($8.47 per 36 pounds); $\frac{8}{4}$ kerchief rolls, 36 inches wide by one-half of one inch thick, $8\frac{9}{16}$ inches bore at small end, $8\frac{11}{16}$ inches bore at large end, 30½ inches outside circumference, of an average weight of 5 poods per roll, 20.50 rubles per pood ($7.24 per 36 pounds); garment rolls, 35 inches long by 17 inches circumference, 17.50 rubles ($6.18).

For the information of the American manufacturers of copper rolls for printing different fabrics, the following figures will show how much extra is added to the base price of a roller by the copper-rolling works at St. Petersburg: For ordinary unpolished, length to 38 inches, with an opening up to 4 inches inclusive in diameter, the last base price was stated at 17.50 rubles

($6.18). Extraordinary unpolished, to the base price the following supplementary charges are added per pood (36.112 pounds):

(1) For length—

Diameter of opening.	Length.									
	38 to 44 inches.		44 to 50 inches.		50 to 55 inches.		55 to 60 inches.		60 to 64 inches.	
	Rubles.		*Rubles.*		*Rubles.*		*Rubles.*		*Rubles.*	
Up to 4 inches	.....	.....	0.65	$0.23	1.25	$0.44	1.90	$0.67	3.15	$1.11
4 to 5 inches	.....	.....	1.25	.44	1.90	.67	2.50	.88	3.76	1.32
5 to 6 inches	1.25	$0.44	1.90	.67	2.50	.88	3.75	1.32	5	1.76
6 to 10 inches	1.25	.44	2.50	.88	3.75	1.32	5	1.76	6.25	2.20
10 to 12 inches	2.50	.88	3.75	1.32	5	1.76	6.25	2.20	7.50	2.66

(2) For the opening, weight of roller not less than 5 poods (180½ pounds)—

Diameter of opening.	Charge.	
	Rubles.	
4 to 5 inches	0.65	$0.23
5 to 6 inches	1.75	.62
6 to 10 inches	2	.70½
10 to 11 inches	4	1.41
11 to 12 inches	6	2.12

(3) For the weight (diameter of opening above 4 inches), from 4 to 5 poods (144.4 to 180½ pounds), 1 ruble (35.3 cents); less than 4 poods, 2 rubles (70.6 cents).

(4) For polishing ordinary rolls, 50 copecks (17.7 cents); extraordinary rolls, 1 ruble (35.3 cents).

The above-stated diameters are counted from the end of the larger opening.

The freight charged on such goods from England to Russia is 17s. ($4.15) per ton.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *May 4, 1895.*

EGYPTIAN COTTON PROSPECTS FOR 1895.

The Khedivial Government, having no system for collecting crop statistics, representatives of this agency and consulate-general have again this year carefully canvassed the cotton-growing section, and their reports warrant the statement that there is no great increase of acreage over last year. A conservative estimate places the present area at 1,075,000 acres, with a possible crop under favorable conditions of 1,050,000 bales (American standard). Planters find an incentive in current high prices to extend the cotton

territory, but the extension in 1894 was so great as to about reach the limit of possibility, until irrigation can have a fresh impulse.

This season's crop was sown at least two weeks earlier than last year's, to take advantage of exceptionally warm weather, and plants are already strong and growing well. Water thus far is plentiful and irrigation consequently easy. It is said that many planters who, in years past, have experimented with fancy seeds have this season planted "Mit-Afifi" and "Bamia" only.

Shipments of Egyptian long-staple cotton to the United States continue to increase, and for the commercial year 1894–95 will amount to 47,500 bales of 750 pounds each. This is equivalent to about 71,250 bales of American standard. The shipment ten years ago was less than 4,000 bales.

FREDERIC C. PENFIELD,
Agent and Consul-General.

CAIRO, *May 16, 1895.*

THE KOLA NUT IN JAMAICA.*

Inquiries having been made of me by parties in the United States about the kola nut in Jamaica, I take this medium of replying.

The climate and soil of Jamaica are adapted to the raising of this useful product. Very little attention, however, has been paid to its cultivation until the last few years; but, in consequence of the attention of the planters being called to it by the director of public gardens and a demand having sprung up for it in the United States, a great number of young trees have been recently planted, and more attention is now being paid to its cultivation than ever before.

I can not ascertain what acreage is under cultivation, and very little is, therefore, known of the probable crop of the island, but, from what I can gather, I do not think it will exceed 10 to 12 tons this year. In the course of four or five years, a crop of 40 to 50 tons is looked for.

The crop begins about the end of May and lasts for four or five months. A most healthy and invigorating drink (nonalcoholic) is manufactured from this nut upon the island and is growing in popularity and demand.

Mr. W. Fawcett, the director of the department of public gardens and plantations of Jamaica, has kindly furnished me with the following information in reference to its properties, etc.:

The kola nut, or bissy, is a native of western tropical Africa. It is a tree from 30 to 60 feet high, flourishing best in moist lands from sea level up to 1,000 feet. A full crop of 120 pounds of nuts or seeds can not be expected till the tree is ten years old, but, in favorable situations, fruit may appear after four years.

Great care is taken in Africa in the selection of nuts for sale; they are carefully picked out and all damaged and worm-eaten are removed. The sound nuts are packed in huge

*See CONSULAR REPORTS No 171 (December, 1894), p. 532, and No. 175 (April, 1895), p. 536.

baskets made of bark, lined and covered with thick leaves. The baskets hold each 3 cwts. With the leaves on the top kept moist, the nuts last well for a month. After that they are picked over again, washed, and repacked, and will last for another month, the process being repeated every month.

From the country between Sierra Leone and the Kongo, they are carried to Gambia, where the merchants trading with the interior purchase and dry them. It is said that by the time the nuts reach the tribes who live farthest from where they grow, they are worth their weight in gold. In Jamaica, the nuts are separated, when quite ripe, into their component parts and then carefully dried.

The nuts are reputed to clarify and render healthy the foulest water, and to render tainted meat edible, and, when chewed either fresh or as a dry powder and the saliva swallowed, to be a sure preventive against dysentery. They are also said to be good for the liver, and to possess the property of enabling persons to undergo prolonged exertion without fatigue. Dr. Neish states that the nuts furnish a nutriment and stimulant beverage, rich in the active proportion of bromine, the active principle of cacao. These nuts, in addition, contain three times the percentage of starch contained in chocolate, and, moreover, they also contain less fat; so that, besides stimulant and nutritive properties, there is the probability that a chocolate prepared from them will more readily agree with delicate stomachs. What enhances the value of the kola nuts is the fact that citrate of caffeine, a medicine now much employed for the relief of seasickness, megrims, and other nervous complaints, can be readily obtained from these nuts, for the reason that the nuts contain more caffeine than coffee berries, and in the kola nut the caffeine is in the free or uncombined state.

Q. O. ECKFORD,
Consul.

KINGSTON, *May 20, 1895.*

BAG MANUFACTURE IN VALENCIA.

Considering the importance of agricultural products in the province of Valencia, the consumption of bags is an important item, and hence their manufacture in this city has become an industry of the first order.

These factories manufacture bags not only for Valencian consumption for cereals, fruits, dried vegetables, wool, and guano, but also for other parts of Spain, where sugar factories and salt mines exist, and for the mineral districts; besides this, they export bags to a considerable extent to the Spanish West Indies and the Philippine Islands.

There exist to-day in Valencia twelve bag factories employing 500 looms, of which 350 are of iron and moved by machinery, and 150 are of wood hand worked. The iron looms and machinery are imported from England.

The wages of children, women, and men earned in these factories run from 50 centimes (9.65 cents) to 1.75 pesetas (34 cents) per day.

The annual output is about 5,000,000 bags, of every quality, from the most ordinary guano bag to the strong mineral bag, and from the small salt and sugar bag to the large wool bags. The greatest number, however, are intended for cereals, rice, flour, and dried vegetables. The selling prices of these bags vary according to quality and size, running between 9 cents and 24 cents each.

The material used in the manufacture of these bags is jute yarn, which is imported here from Scotland and Belgium. The weft yarns come from Dundee ready for use, spun on cops, but the warp comes from Ghent, this being the most available in quality and price.

Two factories are now being constructed here to spin the raw jute into yarns. The raw material is brought from Calcutta.

The total import of jute yarns into Spain amounts to 4,700,000 kilograms (10,361,600 pounds) a year, of which 1,100,000 kilograms (2,425,060 pounds) come to Valencia, 1,000,000 kilograms (2,204,600 pounds) from England, and 100,000 kilograms (220,460 pounds) from Belgium.

THEODOR MERTENS,
Consular Agent.

GRAO, *May 14, 1895.*

PROPOSED DUTY ON CIGARS AND CIGARETTES IN BELGIUM.

A bill is now before the Belgian House of Representatives to increase the customs duty from 300 francs ($57.90) to 500 francs ($96.50) per 100 kilograms (220.46 pounds) on cigars and cigarettes coming into Belgium.

The bill further reads that—

In order to secure a better collection of the customs duty and to prevent, as far as possible fraud, it is necessary that the law should give the Government authority to prescribe the manner of packing imported cigars and cigarettes, as well as affixing official stamps. The stamping or affixing stamps on cases, boxes, or packages at the customs office where the entry is made while certifying the payment of customs dues will, at the same time give proof to the public that the article is really of foreign origin. The consumers, besides exacting the manufacturers' stamp, will also demand the official stamp, the absence of which will be a serious obstacle to the sale of cigars and cigarettes fraudulently brought into the country.

Under the law of July 1, 1883, the duty on tobacco is as follows: Unmanufactured (leaf, stem, and extracts of tobacco), 70 francs ($13.51) per 100 kilograms (220.46 pounds); manufactured tobacco, cigars, and cigarettes, 300 francs ($57.90) per 100 kilograms; other (including leaf tobacco), 100 francs ($19.30) per 100 kilograms.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *May 22, 1895.*

PRESENT AND PROPOSED BELGIAN TARIFF.

I transmit herewith copy and translation of a table showing comparison between the present and proposed Belgian tariff.

Comparison between the present and proposed Belgian tariff.

Tariff number.	Tariff classification.	Proposed duty.			Present duty.			Remarks.
		Unit.	Duty.		Unit.	Duty.		
5	Wood for building and cabinetwork, other than oak and walnut:		*Francs.*			*Francs.*		
	Round and unsawed	Cubic meter	1.00	$0.193	Cubic meter	3.00	$0.579	
	Sawed	do	6.00	1.16	do	6.00 and 9.00	$1.16 and 1.74	
	Planed	do	9.00	1.74	do	9.00	1.74	
	Poles and sticks of wood in round logs, being less than 75 centimeters in circumference at the largest end.	do	1.00	.193		Free.		
	Casks, finished and knocked down	100 francs	10.00	1.93		Free.		
7	Cacao (crude, fiber, and cacao butter)		Free.		100 kilograms	15.00	2.895	
13	Biscuits:							
	Containing no sugar, or not more than 15 per cent of sugar.	100 kilograms	10.00	1.93	do	10.00	1.93	
	Containing more than 15 per cent and not more than 40 per cent of sugar.	do	25.00	4.825	do do	[1]10.00 [2]25.00	1.93 4.825	[1] Biscuits containing not more than 20 per cent of sugar.
	Containing more than 40 per cent and not more than 70 per cent of sugar.	do	40.00	7.72	do	[2]25.00	4.825	[2] Biscuits containing more than 40 per cent of sugar.
	Containing more than 70 per cent of sugar	do	[3]50.56	9.768	do do	[2]25.00 [4]50.56	4.825 9.768	[3] This duty is applicable to refined sugar; sugar such as white powdered sugar and similar products are liable to an additional tax of 15 per cent.
15	Butter, fresh and salted	do	20.00	3.86		Free.		
	Oleomargarine and other artificial butter	do	20.00	3.86		Free.		
	Milk:							
	For the manufacture of oleomargarine and other artificial butter.	Hectoliter	2.00	.386		Free.		
	Other		Free.			Free.		[4] Biscuits containing a very small quantity of flour or fecula.
	Flour (including semolina)	100 kilograms	1.50	.289		Free.		
	Malt	do	.50	.096		Free.		
	Alimentary pastes (macaroni, vermicelli, and Italian pastes).	do	4.00	.772		Free.		
	Preserved game, fowl, and meat in boxes, jars, crust or other similar packing.	do	30.00	5.79		Free.[5]		[5] Containing substances subjected to customs duty or

	Preserved vegetables, in boxes or bottles	do	10.00	1.93		Free.[5]			excise tax: these products are placed in the category of alimentary preserves, taxed according to the rate of 10 or 25 francs per 100 kilograms.
	Paste (*paté de foie gras*)	do	60.00	11.58	100 kilograms	10.00	1.93		
	Fowls, dead	do	30.00	5.79		Free.			
20	Saffron	do	500.00	96.50	Ad valorem, or, at choice of importer, 100 kilograms.	15 per cent.			
	Truffles	do	300.00	57.90		200.00	38.60		
22	Cotton thread:								
	Unbleached and bleached, measuring per half kilogram—								
	20,000 meters or less	do	10.00	1.95	100 kilograms	15.00	2.895		
	20,000 to 40,000 meters	do	15.00	2.895	do	20.00	[6]3.86	[6]	20,000 to 30,000 meters.
	40,000 to 65,000 meters	do	20.00	3.86	do	30.00	[7]5.79	[7]	30,000 to 40,000 meters.
					do	40.00	[8]7.72	[8]	40,000 to 65,000 meters.
	More than 65,000 meters	do	5.00	.965	do	10.00	1.93		
	Colored or warp, measuring per half kilogram—								
	20,000 meters or less	do	15.00	2.895	do	25.00	4.825		
	20,000 to 40,000 meters	do	20.00	3.86	do	30.00	[9]5.79	[9]	20,000 to 30,000 meters.
	40,000 to 65,000 meters	do	25.00	4.825	do	40.00	[10]7.72	[10]	30,000 to 40,000 meters.
					do	50.00	[11]9.65	[11]	40,000 to 65,000 meters.
	More than 65,000 meters	do	5.00	.965	do	10.00	1.93		
	Unbleached and bleached (twisted), measuring per half kilogram—								
	20,000 meters or less	do	15.00	2.895	do	15.00	2.895		
	20,000 to 40,000 meters	do	20.00	3.86	do	20.00	[12]3.86	[12]	20,000 to 30,000 meters.
	40,000 to 65,000 meters	do	25.00	4.825	do	30.00	[13]5.79	[13]	30,000 to 40,000 meters.
					do	40.00	[14]7.72	[14]	40,000 to 65,000 meters.
	More than 65,000 meters	do	5.00	.965	do	10.00	1.93		
	Colored or warp (twisted), measuring per half kilogram—								
	20,000 meters or less	100 kilograms	20.00	3.86	100 kilograms	25.00	4.825		
	20,000 to 40,000 meters	do	25.00	4.825	do	30.00	[15]5.79	[15]	20,000 to 30,000 meters.
	40,000 to 65,000 meters	do	30.00	5.79	do	40.00	[16]7.72	[16]	30,000 to 40,000 meters.
					do	50.00	[17]9.65	[17]	40,000 to 65,000 meters.
	More than 65,000 meters	do	5.00	.965	do	10.00	1.93		
	Yarns made of goat, alpaca, llama, vicuna, or camel hair.	do	5.00	.965	do	20.00	[18]3.86	[18]	Untwisted and not dyed.
					do	30.00	[19]5.79	[19]	Twisted or colored.

Comparison between the present and proposed Belgian tariff—Continued.

Tariff number.	Tariff classification.	Proposed duty.			Present duty.			Remarks.
		Unit.	Duty.		Unit.	Duty.		
	Worsted yarn:		*Francs*			*Francs.*		
	Carded	100 kilograms	5.00	$0.965	100 kilograms	20.00	[20]$3.86	[20] Untwisted and not dyed.
					do	30.00	[21]5.79	[21] Twisted or colored.
	Dressed—							
	Simple:							
	Not colored	do	15.00	2.895	do	20.00	3.86	
	Colored	do	20.00	3.86	do	30.00	5.79	
	Twisted:							
	Not colored	do	20.00	3.86	do	30.00	5.79	
	Colored	do	25.00	4.825	do	30.00	5.79	
	Thread prepared for retail:							
	Cotton thread measuring more than 65,000 meters per half kilogram.	do	10.00	1.93	do	10.00	1.93	
	All other thread except silk	100 francs	8.00	1.54	Duties on thread according to kind and weight.			
23	Fruits, not specially tariffed:							
	Fresh—							
	Pineapples (including those preserved without alcohol or sugar, or containing not more than 20 per cent of sugar); grapes (including crushed grapes and grape skins).	100 kilograms	25.00	4.825	100 kilograms	10.00	[22]1.93	[22] Pineapples preserved without alcohol or sugar, or containing not more than 20 per cent of sugar.
					100 francs	10.00	[23]1.93	[23] Pineapples and grapes.
					Hectoliter	23.00	[24]3.939	[24] Crushed grapes (excise tax).
						Free.[25]		[25] Grape skins.
	Other (including those preserved without alcohol or sugar, or containing not more than 20 per cent of sugar), imported in cases, boxes, jars, baskets, or any other packing, 3 kilograms or less in weight.	do	25.00	4.825	100 kilograms	10.00	[26]1.93	[26] Fruits preserved without alcohol or sugar, or containing not more than 20 per cent of sugar.
					100 francs	10.00	[27]1.93	[27] Fresh fruits.
	Imported otherwise	do	10.00	1.93				
	Dried	100 francs	10.00	1.93	do	10.00	1.93	
24	Clothing (linen and ready-made of all kinds):							
	Collars and cuffs (linen)	do	10.00	1.93	do	10.00	1.93	

	Linen and all kinds of clothing for women—						
	Simply sewed, without ornaments or embroidery.	.....do.....	15.00	2.895			
	All other kinds.....	.....do.....	20 00	3.86			
	Clothing for men, composed wholly of wool, or mixed with other textile materials, wool being the heaviest—				...do	10 00	1.93
	Hats of all kinds.....	.....do.....	10.00	1 93			
	All other kinds.....	.....do.....	15.00	2.895			
	Hosiery (articles made up wholly or in part of material other than that mentioned above).	.....do.....	15.00	2.895	100 kilograms, or, at choice of importer, ad valorem	300 francs, or 10 per cent.	57.90
	Instruments, musical.....	.....do.....	10.00	1.93	100 francs.....	6.00	1.158
	Morocco.....	.....do.....	15.00	2.895	.....do.....	10.00	1.93
	Mercery and hardware.....	.....do.....	15.00	2.895	.....do.....	10.00	1.93
	Perfumery:						
	Alcoholic.....	.....do.....	15.00	2.895	Hectoliter.....	134.00	25.862
	Nonalcoholic.....	.....do.....	15.00	2.895	100 francs.....	10.00	1.93
	Iron:						
	Scrap (iron, cast iron, and steel).....	.....	Free.	.....	100 kilograms.....	.50	.096
	Rough cast iron.....	100 kilograms.....	.20	.038	.....do.....	.50	.096
	Rough iron and puddled iron.....	.....do.....	.30	.057	.....do.....	.50	.096
	Steel:						
	Rough	.....do.....	.30	.057	.....do.....	.50	.096
	Sheet and blooms.....	.....do.....	.40	.077	.....do.....	.50	.096
	Billets and bolt blanks.....	.....do.....	.50	.096	.....do.....	1.00	.193
36	Watches.....	10 francs.....	10.00	1.93	.....	Free.	.....
36	Furnishings for watches.....	.....do.....	5.00	.965	.....	Free.	.....
40	Skins (hard-tanned goat and sheep skins and hard-tawed kid skins).	.....	Free.	.....	100 kilograms.....	10.00	1.93
41	Slate for roofs.....	1,000 pieces.....	4.00	.772	1,000 pieces.....	2.00	.386
45	Whalebone, cut and prepared.....	100 francs.....	5.00	.965	100 francs.....	10.00	1.93
45	Spools (wooden), for sewing thread prepared for retail.	.....do.....	5.00	.965	.....do.....	10.00	1.93
45	Material for artificial flowers, such as leaves, calyxes, stiff wire, pistils, ovaries, cloth and rubber tubes, etc.	.....do.....	5.00	.965	.....do.....	10.00	1.93

Comparison between the present and proposed Belgian tariff—Continued.

Tariff number.	Tariff classification.	Proposed duty.			Present duty.			Remarks.
		Unit.	Duty.		Unit.	Duty.		
46	Typographical products:		*Francs.*			*Francs.*		
	Books, newspapers, periodicals, geographical or marine charts and music, engraved or printed, in sheets or pamphlets.	.....	Free.	.....	.....	Free.	.....	
	Other	100 francs	15.00	$2.895	.....	Free.	.....	
50	Soap (perfumed or toilet)	do	12.00	2.316	100 kilograms	6.00	$1.158	
55	Embroideries, handmade	do	20.00	3.86	Classed as tissues, according to material.			
55	Tissues:							
	Cotton tissues, 5 millimeters square, plain, twilled, and drilling—							
	Unbleached:							
	First class, weighing 15 kilograms and more per 100 square meters—							
	27 threads and less	100 kilograms	35.00	6.755	100 kilograms	50.00	9.65	
	28 to 35 threads	do	40.00	7.72	do	50.00	9.65	
	36 to 43 threads	do	55.00	10.615	do	72.00	13.896	
	44 threads and more	do	65.00	12.545	do	72.00	13.896	
	Second class, weighing from 11 to 15 kilograms per 100 square meters—							
	27 threads and less	do	40.00	7.72	do	50.00	9.65	
	28 to 35 threads	do	50.00	9.65	do	50.00	9.65	
	36 to 43 threads	do	60.00	11.58	do	72.00	13.896	
	44 threads and more	do	70.00	13.51	do	72.00	13.896	
	Third class, from 7 to 11 kilograms per 100 square meters—							
	27 threads and less	do	50.00	9.65	do	60.00	11.58	
	28 to 35 threads	do	60.00	11.58	do	60.00	11.58	
	36 to 43 threads	do	80.00	15.44	do	100.00	19.30	
	44 threads and more	do	100.00	19.30	do	180.00	34.74	

Fourth class, weighing from 3 to 7 kilograms per 100 square meters—							
27 threads and less	do	70.00	13.51	do	80.00	15.44	
28 to 35 threads	do	90.00	17.37	do	120.00	23.16	
36 threads and more	do	100.00	19.30	do	190.00	[28] 36.67	[28] From 36 to 43 threads.
				do	300.00	[29] 57.90	[29] 44 threads and more.
Bleached:							
First class, weighing 15 kilograms and more per 100 square meters—							
27 threads and less	do	40.00	7.72	do	57.50	11.10	
28 to 35 threads	do	46.00	8.878	do	57.50	11.10	
36 to 43 threads	do	63.00	12.159	do	82.80	15.78	
44 threads and more	do	75.00	14.475	do	82.80	15.78	
Second class, weighing from 11 to 15 kilograms per 100 square meters—							
27 threads and less	do	46.00	8.878	do	57.50	11.50	
28 to 35 threads	do	57.50	11.50	do	57.50	11.50	
36 to 43 threads	do	69.00	13.317	do	82.80	15.78	
44 threads and more	do	80.50	15.44	do	82.80	15.78	
Third class, from 7 to 11 kilograms per 100 square meters—							
27 threads and less	do	57.50	11.50	do	69.00	13.317	
28 to 35 threads	do	69.00	13.317	do	69.00	13.317	
36 to 43 threads	do	92.00	17.756	do	115.00	22.195	
44 threads and more	do	115.00	22.195	do	207.00	35.951	
Fourth class, from 3 to 7 kilograms per 100 square meters—							
27 threads and less	do	80.50	15.44	do	92.00	17.756	
28 to 35 threads	do	103.50	19.975	do	138.00	26.634	
36 threads and more	do	115.00	22.195	do	218.50	[30] 42.17	[30] From 36 to 43 threads.
				do	345.00	[31] 66.585	[31] 44 threads and more.
Dyed or printed: [32]							[32] Printed cotton tissues are at present subjected to an ad valorem duty of 15 per cent.
First class, weighing 15 kilograms and more per 100 square meters—							
27 threads and less	do	55.00	10.615	do	75.00	14.475	

Comparison between the present and proposed Belgian tariff—Continued.

Tariff number.	Tariff classification.	Proposed duty.			Present duty.			Remarks.
		Unit.	Duty.		Unit.	Duty.		
	Tissues—Continued.							
	Cotton tissues, 5 millimeters square, plain, twilled, and drilling—Continued.							
	Dyed or printed—Continued.							
	First class, weighing 15 kilograms and more per 100 square meters—Continued.		*Francs.*			*Francs.*		
	28 to 35 threads	100 kilograms	60.00	$11.58	100 kilograms	75.00	$14.475	
	36 to 43 threads	do	75.00	14.475	do	97.00	18.721	
	44 threads and more	do	85.00	16.450	do	97.00	18.721	
	Second class, weighing from 11 to 15 kilograms per 100 square meters—							
	27 threads and less	do	60.00	11.58	do	75.00	14.475	
	28 to 35 threads	do	70.00	13.51	do	75.00	14.475	
	36 to 43 threads	do	80.00	15.44	do	97.00	18.721	
	44 threads and more	do	90.00	17.37	do	97.00	18.721	
	Third class, weighing from 7 to 11 kilograms per 100 square meters—							
	27 threads and less	do	70.00	13.51	do	85.00	16.405	
	28 to 35 threads	do	80.00	15.44	do	85.00	16.405	
	36 to 43 threads	do	100.00	19.30	do	125.00	24.125	
	44 threads and more	do	120.00	23.16	do	205.00	39.565	
	Fourth class, weighing from 3 to 7 kilograms per 100 square meters—							
	27 threads and less	do	90.00	17.37	do	105.00	20.265	
	28 to 35 threads	do	110.00	21.23	do	145.00	27.985	
	36 threads and more	do	120.00	23.16	do	215.00	[33] 41.495	[33] From 36 to 43 threads.
					do	325.00	[34] 62.725	[34] 44 threads and more.

	Cotton velvets*—							
	Silk velvets :*							
	Unbleached	do	75.00	14.475	do	85.00	16.405	
	Dyed or printed	do	95.00	18.635	do	110.00	21.23	
	Other cords, moleskins, etc. :							
	Unbleached	do	50.00	9.65	do	60.00	11.58	
	Dyed or printed	do	70.00	13.51	do	85.00	16.405	
	Cotton tissues, plain, twilled, and drilling, weighing less than 3 kilograms per 100 square meters (piqués, dimity, muslin, damask, and brilliant).	100 francs	10.00	1.93	100 francs	10.00	1.93	
	All other tissues of cotton	do	15.00	2.895	do	10.00	1.93	
	Woolen tissues, carpets and upholstery, woolen scarfs, woolen tissues weighing less than 300 grams per square meter.	do	15.00	2.895	do	10.00	1.93	
	Silk tissues, other than lace made by hand and by bobbin.	do	10.00	1.93	100 kilograms or, at choice of importer, 100 francs.	300.00 or 10.00	57.90 or 1.93	
	Oilcloth of all kinds	do	15.00	2.895	100 francs	10.00	1.93	
	Mixed tissues of all kinds	(†)	(†)	(†)	(‡)	(‡)	(‡)	
56	Yeast and leaven	100 kilograms	10.00	1.93		Free.		

* Thus given in report.

† Duty on tissues according to material and weight. All tissues containing more than 5 per cent of material other than that which constitutes the principal material are considered mixed tissues.

‡ Duty on tissues according to material and weight.

BRUSSELS, *May 14, 1895.*

GEO. W. ROOSEVELT,
Consul.

BUTTER AND ARTIFICIAL BUTTER IN BELGIUM.

For the past few years, the dairy industry in this country has suffered from the constantly increasing competition of artificial butter and margarin. The law of December 10, 1890, relative to the sale of artificial butter partially relieved the condition complained of. More efficacious protection has been demanded, but several of the measures proposed and asked for are either difficult of application or of excessive severity.

MARGARIN.

The consumption of margarin in Belgium during the past few years has been very considerable. The country produces from 2,000,000 to 3,000,000 kilograms (4,409,200 to 6,613,800 pounds) annually. The present consumption demands an annual importation of about 12,000,000 kilograms (26,455,200 pounds).

The following shows the importation into and exportation from Belgium of butter and margarin during the past ten years:

Year.	Imports.		Exports.	
	Butter.	Margarin.	Butter.	Margarin.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
1884	16,968,600	.....	9,609,600	.....
1885	17,518,600	.....	10,060,600	.....
1886	19,679,000	.....	8,698,800	.....
1887	18,814,400	.....	12,753,400	.....
1888	22,068,200	.....	7,972,800	.....
1889	26,386,800	.....	8,217,000	.....
1890	30,208,200	.....	7,816,600	.....
1891	14,137,200	24,024,000	6,721,000	7,191,800
1892	12,210,000	25,938,000	5,458,200	7,198,400
1893	12,955,800	26,151,400	5,878,400	7,561,400

Very nearly the entire quantity of margarin consumed in Belgium is imported from Holland. It is estimated that the annual consumption in Belgium of this article amounts to 15,000,000 kilograms (33,069,000 pounds).

Statistics show a falling off in the importation of all fats other than butter and margarin, which proves that the latter product has nearly completely replaced fats of inferior quality which were formerly employed. The consumption of margarin steadily increases, and is now sold in all the cities of this country under its proper name. The Belgian Government is favoring the manufacture of margarin, not alone to supply the home demand, but, if possible, to compete with Holland for the English market. England imports annually more than 65,000,000 kilograms (143,299,000 pounds) of this product, estimated at 90,000,000 francs ($17,370,000), principally from

Holland, which makes a speciality of mixing American oleomargarine with oil and milk.

To secure a part of the trade with England, the Belgian Government proposes to establish a duty of 20 francs ($3.86) per 100 kilograms (220.46 pounds) on all imported margarin, and an excise duty of 5 francs (96½ cents) on home production. The remittal of the excise tax will be authorized by law on all exportation.

In France, margarin, oleomargarine, alimentary fats, and similar products are liable to a customs duty of 15 francs ($2.89½) per 100 kilograms (220.46 pounds); and lard, 14.50 francs ($2.80) per 100 kilograms. In Germany, artificial butter is taxed 25 francs ($4.82½) per 100 kilograms. Pork, goose, and other melted fats, also margarin, economical fat (a mixture of various fats and oil), and beef marrow are taxed 12.50 francs ($2.41) per 100 kilograms. The Belgian Government wishes to confine the duty to natural butter, margarin, mixtures of fats and oil, and, excepting milk, will permit all raw materials free entry.

To produce 100 kilograms (220.46 pounds) of margarin, it requires at least 65 kilograms (143.3 pounds) of oleomargarine, 20 kilograms (44.2 pounds) of vegetable oil, and 30 kilograms (66.43 pounds) of milk, half of which is eliminated in the form of water.

Very little oleomargarine is manufactured in this country. Large quantities are produced in Austria and France, but nearly the entire Continent of Europe receives its supply from New York and Chicago. Importation is almost exclusively via the port of Rotterdam, which received, in 1893, more than 35,000,000 kilograms (72,651,800 pounds).

It is the opinion that as the margarin industry develops in Belgium, the manufacture of oleomargarine will proportionately increase, and importation of foreign oleomargarine will then be made direct via the port of Antwerp.

At present, there is no establishment in Belgium for the preparation of peanut or edible cotton-seed oil. This industry will, no doubt, also assume a certain importance here as in France and Holland.

MARGARIN VS. DAIRY BUTTER.

Some time since, France sent a delegation to Holland for the purpose of studying the methods employed there for the suppression of frauds in butter making, and also to ascertain if the manufacture of margarin has been favorable to agricultural interests. The report contains the attestation of seven mayors of communes in southern Holland, showing that since the introduction of the margarin industry in that country not only has the price of milk increased, but also the number of cattle, which plainly shows that the industry in question has become a source of profit to the farmers. It is the general opinion of those interested in the manufacture of margarin that an entry duty on this article, as well as an excise tax on the home products, would develop the dairy industry, provided foreign milk destined exclusively for the manufacture of margarin is subjected to duty. A proposed duty of 2

francs (38½ cents) per hectoliter (26.417 gallons) for milk destined for the manufacture of margarin or other artificial butter is now under discussion in the Belgian House of Representatives. Milk destined for other uses will continue to be exempt, under reserve indicated in the tariff. The free admission of milk imported in quantities exceeding 50 liters (52½ quarts) is subordinate to remission and measures judged necessary by the Minister of Finance to prevent frauds.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *May 16, 1895.*

NEW TARIFF OF THE BAHAMAS.

At its present session, the legislature of the Bahamas passed a new tariff act, which came into operation on the 8th instant.

I inclose herewith the act in question, in which have been made the alterations necessary to reduce all duties, weights, and measures to those of the United States.

THOS. J. McLAIN,
Consul.

NASSAU, N. P., *May 15, 1895.*

DUTIES ON IMPORTS AND CERTAIN OTHER IMPOSTS.

(1) From and after the coming into operation of this act there shall be received, levied, collected, and paid unto Her Majesty, her heirs, and successors, for the support of the government of the Bahama Islands, upon goods, wares, and merchandise imported or brought into the colony from any other port or place without the same, except as hereinafter excepted, the several duties set forth in the subjoined table, that is to say:

Table of duties.

Alcohol, per proof gallon according to Sykes's hydrometer		$1.20
Ale and porter:		
In wood	per gallon	.24
In bottles	per dozen quarts	.48
Apples	per barrel	.60
Beans and pease	per bushel	.12
Biscuit and bread:		
Common	per barrel	.48
Fancy, 25 per cent ad valorem.		
Brandy	per gallon	2.40
Butter, 20 per cent ad valorem.		
Cabbages	per 100	1.00
Candles:		
Sperm	per 100 pounds	2.64
Tallow	do	1.44
Cattle (cows, bulls, and oxen)	each	4.80

Cheese	per 100 pounds	$3.00
Cider, 25 per cent ad valorem.		
Cigars	per 100	1.00
Cocoa (in bean)	per 100 pounds	.72
Coffee:		
Raw	do	1.92
Roasted or prepared	do	2.88
Copper and yellow metal in sheets, copper and composition bolts and nails, per 100 pounds		1.80
Corn	per bushel	.12
Corn meal	per barrel	.48
Dogs	each	.60
Fish:		
Dried or salted	per 100 pounds	.96
Pickled (salmon, herrings, and all other kinds), 25 per cent ad valorem.		
Flour, wheat and rye, 10 per cent ad valorem, and per barrel		.72
Gin, per proof gallon, according to Sykes's hydrometer		1.20
Goats	each	.96
Gunpowder	per pound	.12
Hay	per 100 pounds	.24
Horses, colts, and fillies	each	4.80
Hominy	per barrel	.48
Hulks and materials of vessels, 30 per cent ad valorem.		
Lard, lard compound, and cottolene	per pound	.02
Lumber	per 1,000 feet	2.40
Dressed or grooved and tongued	do	3.60
Meat:		
Fresh, on ice	per 100 pounds	2.88
Salted or cured	do	1.44
Molasses and cane sirup	per gallon	.06
Mules and asses	each	2.40
Nails of iron of all kinds	per 100 pounds	.72
Oats and bran	per bushel	.12
Oils:		
Kerosene	per gallon	.08
Linseed and other unenumerated	do	.18
Olive, sperm, and lard	do	.24
Essential, 25 per cent ad valorem.		
Pitch and tar	per barrel	.30
Potatoes and onions	do	.48
Poultry and game:		
Fresh, on ice	per 100 pounds	2.92
Live, 25 per cent ad valorem.		
Rice	do	.48
Rum:		
Per proof gallon according to Sykes's hydrometer		1.20
For each degree over proof		.01
Sheep	each	.96
Shingles, cypress:		
4 inches in width at butt	per 1,000	.48
5 inches in width at butt	do	.72
6 inches in width at butt	do	.96
Other, not cypress	do	.48

Soap, common washing	per 100 pounds...	$1.44
Sugar:		
Unrefined	per 100 pounds...	1.32
Refined	do.....	2.88
Swine	each...	.96
Tea	per pound...	.24
Tobacco:		
Unmanufactured	per pound...	.06
Manufactured, other than fine cut	do.....	.12
Fine cut, 40 per cent ad valorem.		
Turpentine	per barrel...	.30
Spirits	per gallon...	.06
Whisky, per proof gallon, according to Sykes's hydrometer		1.44
Do	per dozen quarts...	2.88
Wines of all kinds, 25 per cent ad valorem and per gallon		.60

Articles not enumerated, except such as are comprised in the table of exemptions, 25 per cent ad valorem. Provided always, that articles herein made subject on regular importation to the above ad valorem duty, when not originally shipped with the intention of being brought into this colony, however subsequently they may be imported, and when the requisite information for perfect entry of the same as to the cost or value in the country of production or place at which they were originally shipped can not be ascertained or obtained, shall, in lieu of such duty, be charged a duty of 33⅓ per cent on the value at the port of entry or on the price which they shall realize at auction, when sold and delivered for consumption therein, at the option of the importer, agent, or consignee.

ARTICLES FREE OF DUTY.

(2) Articles imported or supplied out of a bonded warehouse for the imperial or colonial service.

Articles imported or supplied out of a bonded warehouse for the use and accommodation of any officer of Her Majesty's navy on full pay and doing duty within these islands, or who may be serving within these islands in any imperial department of Her Majesty's service, upon the production to the receiver-general or other proper receiver of a certificate, signed by the senior naval officer on the station, that the articles claimed as exempt from duty are bona fide imported or supplied, as the case may be, for the purposes contemplated thereby.

Articles of every description imported or supplied from a bonded warehouse for the use of the governor or officer administering the government.

Calves and foals; bulbs, roots, seeds of all kinds, shrubs, trees, and plants intended to be used for planting; live birds, other than poultry and game; bullion, coal, cocoanuts, copper and composition (old) fit only to be remanufactured, cotton, wool, dyewoods and stuffs, divi-divi, diving apparatus, flax, ice, iron (old) fit only to be remanufactured, lignum-vitæ, mahogany, manures and fertilizers of all kinds, maps, metalline ores, monumental tablets, oakum, ova of fish, passengers' baggage, scientific instruments and apparatus; cameras and all materials for photographic purposes, materials used by artists and art students in pursuit of their special work, tropical fruits, printed books and pamphlets, provisions and stores of every description imported or supplied from a bonded warehouse for the use of Her Majesty's sea forces, rawhides; specimens of natural history, mineralogy, botany; steam, oil, or gas machines or engines or any parts thereof of every description and for whatever use intended; steam-fitters' tools; iron, steel, and iron rails and sleepers used in the construction of railways or tramways; trucks and all other rolling stock which can only be used on railways or tramways, hydraulic and other power presses for baling purposes, and sleepers used in the construction of railways and tramways, boilers, iron water tanks, mills and parts of mills, machines for sawing lumber, stills, iron piles, cotton gins, tortoise shell, tow, tombstones, railings to be used as grave inclosures, sponges, patent steering machines,

spars, windlasses, capstans, ice machines and all materials used in the manufacture of ice, wire fencing, turtle and all fresh fish not preserved in any way, wax, woods (cedar and yellow), all notes imported by the Bank of Nassau to be used in the business of such bank and for circulation within these islands or otherwise; barrels, half-barrels, and packages to be used for packing any article whatever; crate ends and laths, fiber machines and all parts thereof, gasoline, glass bottles, machinery used in the manufacture of rope, naphtha, salt; staves, heads, and hoops used in the construction of barrels, half-barrels, and other packages for the packing of any article whatever; launches or boats propelled by machinery, windmill pumps and any parts thereof, tallow, resin, caustic soda, potash; palm, cocoanut, and cotton-seed oil; electrical apparatus and appliances, metal roofing; crude petroleum, vaseline, and cosmoline; mineral-soap stock, palm-oil soap stock, cotton-seed-oil soap stock, talc.

Provided always that if metalline ores, rawhides, dyewoods and stuffs, divi-divi, mahogany, lignum-vitæ, cedar, and yellow wood, wax, flax, iron, cotton, wool, or tortoise shell, proposed to be exempted from import duties, shall be brought otherwise than by regular importation into any port or place of this colony and sold at public auction, whether such sale shall take place by order of a court of law or otherwise, there shall be imposed and paid upon the gross amount of such sales, in addition to any other auction duty chargeable on such sales, an auction duty or tax of 5 per cent, and the vendue master or officer selling any such goods shall retain such duty of 5 per cent out of the gross sales of the goods so sold by him, and shall forthwith pay the same over to the receiver general and treasurer or other proper receiver, and if such vendue master or officer shall neglect to retain such duty, or having retained the said duty shall neglect to pay the same over as aforesaid, every such vendue master or officer shall be personally liable therefor, and the same may be recovered against him by action of debt in any court having jurisdiction to the amount.

(3) That the words "provisions and stores" in the second section of this act mentioned as being exempted from the payment of duty, when imported for the use of Her Majesty's sea forces, shall not extend or apply to cattle or other live stock imported by any contractor for the supply of fresh meat to Her Majesty's said forces, all of which cattle and other live stock shall be liable to the payment of the duties by this act imposed. And provided also, and be it enacted that it shall not be lawful for the receiver-general and treasurer or collector of revenue, as the case may be, to allow any provisions, spirits, or other stores imported or supplied, as aforesaid, for the use of Her Majesty's sea forces, to be landed or taken out of a bonded warehouse as free of duty, except in the name of the purser or other proper naval officer, as the case may be.

(4) That if any provisions, spirits, or other stores as aforesaid, imported or taken out of bond, as for the use of Her Majesty's sea forces, shall be afterwards applied to any other use than the one mentioned in the entry, order of delivery or other document under the authority of which the same were landed or taken out of bond as free of duty, the officer in whose name the same were so landed or taken out of bond, or in case of his death or removal, the officer succeeding him in the same department shall be liable for all duties due on the same or on such part thereof as shall be so otherwise applied as aforesaid, and the said duties shall be recovered and applied in the same and the like manner as other duties imposed by this act are directed to be recovered and applied.

(5) That if any provisions, spirits, or other stores so landed, or taken out of bond as aforesaid, shall be clandestinely sold or otherwise disposed of other than to the use of Her Majesty's sea forces, every person concerned in such clandestine sale or disposal, shall forfeit and pay treble the value of the article so clandestinely sold or disposed of, and all such articles shall be liable to seizure and condemnation, one moiety of which said forfeiture shall be paid into the public treasury toward the support of this Government, and the other to the person suing for the same, and shall be sued for and recovered in the general court of these islands.

(6) That there shall be imposed and paid upon the gross amount of sales of all property disposed of at public auction by order of any of the courts of the colony of auction duty or

tax of 2 per cent; and every officer of the court selling any such property at public auction as aforesaid shall retain such duty of 2 per cent out of the gross sales thereof, and shall forthwith pay the same over to the receiver-general or other proper receiver, and if such officer as aforesaid shall neglect to retain such duty, or having retained the said duty, shall neglect to pay the same over as aforesaid, every such officer shall be personally liable therefor, and the same may be recovered against him by action of debt in any court having jurisdiction to the amount.

(7) There shall be allowed and paid to any person or persons who shall have paid customs duties thereon, a rebate of such customs duties in the following cases:

(*a*) Upon all lumber used in the fitting up of vessels for the reception of native fruit to be exported from the colony, provided that the person claiming such rebate shall produce to the receiver-general and treasurer or other proper officer a declaration to be made before a justice of the peace by such person, showing the quantity of lumber actually used, and upon which such rebate is claimed.

(*b*) Upon all articles supplied and delivered for the use of any department of Her Majesty's service within these islands, upon the person claiming the same producing to the receiver-general and treasurer a certificate from the chief officer of the department to which the same have been supplied, that the articles upon which such rebate of duty is claimed have been bona fide supplied and delivered for the use of the said department. Provided, however, that in the case of articles upon which an ad volorem duty has been paid, such rebate shall be calculated and allowed on only one-half of the contract price for which such articles shall have been supplied and delivered to such department.

(*c*) Upon all kerosene oil used as fuel in the working of a steam, oil, or gas engine or steam, oil, or gas engines, a drawback of such customs duties to the extent of 90 per cent. Provided, that before any such drawback shall be paid the person claiming the same shall produce to the receiver-general and treasurer a declaration made before a justice of the peace by such person, containing the following particulars, viz; the number of engines worked by him, the power thereof, the times when used, and the quantities of oil actually consumed in the working thereof for any or either of the purposes herein named and upon which such drawback is claimed.

(8) There shall be allowed upon the exportation from any of these islands of any cigars manufactured within the colony from tobacco upon which duty has been paid under this act to any port or place beyond the limits of this Government a drawback of 9 cents for every one hundred cigars so manufactured and exported as aforesaid. Provided, that no drawback shall be allowed unless security by bond to the satisfaction of the chief officer of revenue at the port of exportation shall have been given for the due exportation of such cigars, and that the same shall not be unshipped or relanded at any port or place within the limits of the colony.

(9) The eighty-first section of the revenue consolidation act, 1873, allowing a deduction of 10 per cent from the gauge of any spirits or wine upon their first importation into the colony shall only apply hereafter to wines or spirits that may be so imported in wood and not in bottles.

(10) At the expiration of one year from and after the coming into operation of this act the specific duty charged on flour shall be at and after the rate of 60 cents per barrel instead of 72 cents per barrel as now fixed by the table of duties in this act.

(11) This act shall come into operation on the 8th day of May, in the year of our Lord 1895, and, subject to the limitation contained in the immediately preceding clause, shall continue in force for three years from that date and from thence to the then next session of the general assembly; and may be cited for all purposes as the "tariff act, 1895."

TRADE BETWEEN THE UNITED STATES AND RUSSIA.

On account of repeated requests from manufacturers and business men generally in the United States in regard to the class of goods which comprise the trade between Russia and the United States, I have prepared the following statements showing the imports into Russia from, and the exports from Russia to, the United States during the years 1891, 1892, and 1893:

IMPORTS.

Table showing quantities of imports into Russia during 1891, 1892, and 1893.

Articles.	1891.	1892.	1893.
European Russia.			
Rice.....poods*	7	2,840	3,905
Coffee.....do	188	4,323	4,107
Cacao and its shell.....do	176	700	1,147
Spices not specially mentioned.....do	227	50	997
Nuts not specially mentioned.....do	.....	.....	174
Dried fruit and berries.....do	77	8	366
Oranges and lemons.....do	.....	524	1,401
Potatoes, pease, and beans.....do	1,220	311,367	2,780
Potato flour, starch, etc.....do	.....	468,821	138
Cigars and cigarettes.....do	29	42	148
Hair, manufactured.....do	.....	.....	307
Down and feathers not specially mentioned.....do	.....	121	627
Blubber, uncleaned.....do	13,188	217	147
Tallow, animal.....do	3,409	11,896	60,044
Animal grease not specially mentioned.....do	.....	150	.....
Grease not specially mentioned.....do	.....	.....	754
Olein, etc.....do	.....	331	1,136
Spermaceti (purified), palm oil, and stearin.....do	6,734	.....	1,291
Cerin, paraffin, etc.....do	306	4,709	33,742
Cocoa and palm oils.....do	.....	4,506	4,229
Castor oil, alizarine, etc.....do	136	.....	.....
Ethereal oils, without spirits.....do	106	.....	.....
Turpentine.....do	.....	.....	1,776
Different soot.....do	.....	.....	115
Horns, hoofs, etc.....do	6,512	1,379	8,052
Hides and skins, raw, dry, and dry salted.....do	5,511	33,367	22,273
The same and fish skins.....do	11,953	.....	.....
Raw skins.....do	16,777	29,380	64,014
Skins of fish.....do	42,123	.....	.....
Large tanned skins and parchment.....do	1	92	2,291
Peltry not specially mentioned.....do	.....	.....	117
Machinery, belting, etc.....do	.....	.....	230
Woods, common, teak, and mahogany, 2 inches thick, squared..do	.....	.....	6,483
In timber and planks one-fourth of one inch to 2 inches thick....do	.....	.....	1,313
Valuable wood in planks.....do	.....	5,462	27,358
Other lumber.....do	890	3,401	1,066
Common wooden ware not polished.....do	.....	.....	393
Articles of valuable and common wood varnished and polished...do	257	617	425
Parts of plants and seeds not specially mentioned.....do	2,953	9,175	3,000
Ricinic seed.....do	.....	46,519	6,200
Plants, flowers, bulbs, roots, etc.....do	11,300	19,895	60,001
Clay used in factories and for building.....do	.....	18,095	15,197

*1 pood = 36.112 pounds.

Table showing quantities of imports into Russia during 1891, 1892, and 1893—Continued.

Articles.	1891.	1892.	1893.
European Russia.—Continued.			
Stones (not precious), unworked.....poods...	.....	315	1,432
Lithographic and millers' stones.....do.....	.....	.....	118
Pottery, except pipes, etc., of one color.....do.....	.....	8	254
Scythes, sickles, pickaxes, etc.....do.....	.....	41	128
Hand utensils for different trades.....do.....	449	132	1,913
Gasometers, hydrometers, etc.....do.....	977	6,425	24,002
Agricultural implements and machinery not specially mentioned..do.....	54,917	19,196	56,623
Parts of machines and apparatus of copper, etc.....do.....	.....	1	325
Of cast iron, iron, and steel.....do.....	10	2,665	15,485
Scales and balances, except apothecary and laboratory, with implements, etc., not exceeding 3 poods.....poods...	.....	662	1,884
Scales for more than 3 poods.....do.....	161	1,982	5,421
Raw cotton.....do.....	3,798,597	3,346,914	2,597,358
Hackled and unhackled flax and hemp.....do.....	53	1,596	1,039
Wool and down, uncombed, unspun, and not dyed.....do.....	.....	.....	19,461
Ropes, etc., from jute, etc.....do.....	507	140	273
Salted and smoked meat and sausages.....do.....	.....	201	.....
Natural (and substances for) manure.....do.....	.....	125,358	.....
Raw bones, ground, etc.....do.....	.....	619	.....
Emery, pumice, and graphite in pieces, and tripoli in pieces and powder.....poods...	.....	419	.....
Fireproof brick.....do.....	5,643	8,992	.....
Raw naphthalene, anthracite, etc.....do.....	.....	604	.....
White resin and pitch for brewers.....do.....	435,741	480,011	922,686
Different gums, etc.....do.....	.....	580	9,212
India rubber, raw, soft, made of horn.....do.....	.....	178	545
Arsenic made of metal.....do.....	.....	145	.....
Saltpeter:			
Chile.....do.....	13,316	2,496	17,732
Ordinary.....do.....	120	123	.....
Natron and potash (caustic), uncleaned.....do.....	.....	1,710	624
Glauber's salt.....do.....	.....	2,364	.....
Chemical and pharmaceutical products not specially mentioned..do.....	.....	232	.....
Tanning materials not crumbed.....do.....	.....	6,781	125,081
Tanning extracts.....do.....	2,149	3,765	33,128
Vegetable dyestuffs not specially mentioned.....do.....	674,855	691,020	796,001
Crumbed, etc.....do.....	588	2,343	1,131
Annotto, etc.....do.....	1,064	2,498	2,702
Sulphuric pyrite, containing 2 per cent of copper.....do.....	.....	93,174	.....
Cast iron in clinches, etc., not specially mentioned.....do.....	.....	3,052	.....
Assorted steel in blocks and scraps.....do.....	.....	113	.....
Locks and hinges, not copper.....do.....	.....	.....	112
Wire, steel, iron, and articles made of same.....do.....	.....	.....	265
Copper, etc., in clinches.....do.....	.....	10,109	108,575
Articles of cast iron, polished or enameled, except kitchen utensils.....poods...	48	1,905	1,476
Articles of iron and steel:			
Kettles, etc.....do.....	1,135	130	213
Finished sharpened, etc.—			
Weighing over 5 pounds.....do.....	819	580	9,765
Of five pounds and under.....do.....	173	189	808
Engines for thrashing machines.....do.....	456	795	.....
Jute, raw.....do.....	54,194	37,803	.....
Bags of jute, linen, etc.....do.....	.....	123	.....
Common salt.....do.....	1,585	.....	.....
Talc, etc.....do.....	65,964	.....	.....
Filtering stones, etc.....do.....	327	.....	.....
Shamoying materials, etc.....do.....	35,765	.....	.....
Wood bark, acorns.....do.....	5,653	.....	.....
Litmus.....do.....	5,672	.....	.....

Table showing quantities of imports into Russia during 1891, 1892, and 1893—Continued.

Articles.		1891.	1892.	1893.
European Russia—Continued.				
Cast iron not finished	poods	117	.....	.....
Articles of cast iron covered with zinc	do	631	.....	.....
Blacksmiths' articles	do	182	.....	.....
Locomotives, tenders, machines of cast iron, etc	do	2,993	.....	.....
Cotton combings	do	144	.....	.....
Different asphalts	do	.....	.....	2,524
Liquid products of distilled naphtha	do	.....	.....	5,959
Vinegar powder	do	.....	.....	60,594
Chloric lime, white lead, and lye	do	.....	.....	168
Chalk, melted or subsided	do	.....	.....	11,784
Dye and tanning extracts and apparatus not specially mentioned	poods	.....	.....	301
Chromic colors, antimony, etc	do	.....	.....	237
Lead in rolls, sheets, etc	do	.....	.....	215
Zinc in blocks and scraps	do	.....	.....	4,673
Articles of metals (not precious) without ornaments	do	.....	.....	117
Pastry, sauces, etc	do	.....	176	1,705
Arrack, rum, brandy, etc	casks	.....	20	178
Watches, gold, and other	pieces	120	40	205
Portable organs, harps, etc	do	15	34	140
Parasols, silk or half silk	do	.....	.....	114
Grape and berry wines, not sparkling	bottles	159	.....	.....
Glassware of white and half white glass	square inches	123	.....	.....
Mirrors of from 100 to 200 square inches		182	.....	.....
Fish, pickled and stuffed, etc	poods	.....	7	735
Asiatic Russia.				
Ropes of jute, etc	poods	.....	.....	1,848
Raw skins, etc	do	.....	341	.....
Gasometers, hydrometers, etc	do	813	1,897	.....
Hanging and interior locks, not brass	do	.....	.....	11
Farming machines and utensils not specially mentioned and models of same	poods	.....	297	.....
Joiners' and turners' articles of common wood	do	.....	.....	117
Raw and half-wrought materials	do	15	2,000	12
Fabrications	do	16,115	47,066	7,804

Table showing values of imports during the years 1891, 1892, and 1893.

Description.	1891.	1892.	1893.	1891.	1892.	1893.
European Russia:	*Rubles.*	*Rubles.*	*Rubles.*			
Provisions	55,366	209,462	207,062	$31,945	$103,160	$93,633
Raw and partly wrought materials	39,418,322	35,218,598	30,314,514	22,744,372	17,345,159	13,708,223
Manufactures	241,551	302,727	917,940	139,375	149,093	415,092
Animals	50	.....	32,084	29	.....	14,508
Total	39,715,289	35,730,787	31,471,600	22,915,721	17,597,412	14,231,456
Asiatic Russia	16,125	50,066	7,816	9,304	24,950	3,534
Grand total	39,731,414	35,780,853	31,479,416	22,925,025	17,622,362	14,234,990

NOTE.—Reduced to American currency according to United States Treasury valuations.

EXPORTS.

Table showing quantities of exports from Russia during 1891, 1892, and 1893.

Articles.		1891.	1892.	1893.
From European Russia.				
Cigarettes	number			7,500
Flaxseed	poods			120
Flax	do		47,130	27,750
Flax tow	do		5,785	15,652
Small cow skins	do	6,043	6,340	1,291
Wool:				
Unwashed	do	49,242	12,424	4,000
Washed	do	12,740	23,523	22,520
Refined	do	22,605	3,982	1,305
Camels' hair:				
Unwashed	do		16,808	658
Washed	do			6,220
Tar	do			133
Ropes	do			696
Different seeds not specially mentioned	do		108	
Hemp	do		1,570	
Sheep and goat skins	do		5,934	
Gum and resin	do		240	
Ready mats	do		500	
Horses	head		773	
From Asiatic Russia.				
Cigarettes	number	60,000		
Licorice root	poods	671,582	850,775	1,058,689
Wool, unwashed	do	69,038	14,264	45,931
Manganese ore	do	162,800	1,514,134	2,105,590
Apothecary materials not specially mentioned	do		2,000	
Nut wood	do	998		
Raw skins:				
Of large animals	do	270		
Of small animals	do	1,417		

Table showing values of exports from Russia during 1891, 1892, and 1893.

Description.	1891.	1892.	1893.	1891.	1892.	1893.
European Russia:	*Rubles.*	*Rubles.*	*Rubles.*			
Provisions		25	196		$12	
Raw and partly wrought materials	815,345	786,744	451,368	$470,454	387,471	$212,739
Animals		45,500			22,409	
Manufactures		1,645	4,886		802	
Total	815,345	833,914	456,450	470,454	410,694	212,739
Asiatic Russia:						
Provisions	300			173		
Raw and partly wrought materials	1,303,041	1,701,105	2,249,439	694,155	837,814	1,016,996
Total	1,303,341	1,701,105	2,249,439	694,328	857,814	1,016,996
Grand total	2,018,686	2,535,019	2,705,889	1,164,782	1,248,508	1,229,735

NOTE.—Reduced to American currency according to United States Treasury valuations.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *May 20, 1895.*

RECENT DEVELOPMENT OF RUSSIA.

The following extracts from the report of the Russian Minister of Finance, presented to the Emperor upon the proposal of the budget for 1895, may be interesting:

Mineral production.—The production of pig iron in 1881 amounted to 492,950 tons, and in 1893, to 1,278,350 tons. This industry has especially developed in southern Russia, where the works, situated near the rich mineral deposits of Krivorog, are abundantly supplied with combustible material.

The manufacture of iron has increased from 323,200 tons in 1880 to 543,500 tons in 1893. In the same period, the production of steel has increased from 337,650 tons to 538,050 tons. The quantity of rails produced has only slightly increased, in all only 28,900 tons, but this essential difference is to be noted, viz, of the 220,300 tons manufactured in 1880, 184,650 tons were made from imported pig iron, while of the 249,650 tons made in 1893 only 50,550 tons were manufactured from foreign pig iron, the remainder being produced by Russian establishments from Russian raw material. The production of manganese was commenced in Russia only two years before the commencement of the last reign. In 1880, the total quantity extracted amounted to 10,850 tons; in 1893, it reached 274,450 tons. Owing to the employment of this mineral in the manufacture of steel, the demand for manganese has rapidly progressed, and the mineral of the Caucasus has opened for itself rich markets.

The extraction of mercury had its beginning in Russia scarcely ten years ago, but at present, the country is not only able to dispense with foreign mercury, but since 1889, considerable quantities of this rare metal have been exported.

The production of coal, which was only 3,627,450 tons in 1880, amounted to 8,309,350 tons in 1893.

The salt produced in 1893 amounted to 1,598,950 tons, against 857,650 tons in 1880.

Petroleum.—The naphtha industry has had a colossal development. The construction of the necessary railroads and other appropriate measures have enabled the Russian supply not only to furnish this country with petroleum and grease, but also to organize a vast export trade to all parts of the world. In 1880, the amount of naphtha extracted was 386,400 tons; in 1893, it amounted to 6,084,850 tons. Coincident with the increasing production, the importation of naphtha and its products decreased from 21,667 tons in 188c to 361 tons in 1893, while the exportations increased from 4,460 tons to 1,070,721 tons.

Cotton and cotton mills.—Important progress has also taken place in the production of textile materials. A little before 1880, feeble attempts had been made to develop the cultivation of cotton in the Russian possessions of the Transcaucasus, the Transcaspian region, and Central Asia, but at first,

these attempts did not give any remarkable results. During the last reign, efforts were made to acclimatize cotton. The cultivation was profitable, and people, desirous of engaging in it, presented themselves in crowds. To-day, this new industry has succeeded in satisfying an important portion of the needs of the country, for in spite of the uninterrupted growth of manufacture, the importation of foreign cotton does not increase, the tendency being rather to decrease. Russia furnishes itself at present with 25 per cent of the cotton which it works up. In 1889, the market only received 32,717,472 pounds of Russian cotton; in 1892, the amount was 137,225,600 pounds.

In the domain of manufacturing, cotton articles should be especially noted. Russian factories have made such progress that they almost entirely supply the domestic markets, and export larger and larger quantities of goods. The number of spindles to-day is about 6,000,000, and there are 200,000 looms. In its power of production, Russia occupies first place on the European continent for cotton cloths.

Sugar.—The sugar industry has for a dozen years been making rapid progress, and is continually improving its processes. It produces larger quantities at a less price. The quantity manufactured has more than doubled—from 287,100 tons in 1880 to 642,800 tons at present.

Agriculture.—Agricultural industry has likewise made remarkable progress. The area sown is continually increasing, and the grain crops show a larger and larger total. During the ten last years of the reign of Alexander II (1871–1880), the average annual crop for the four principal cereals—rye, wheat, oats, and barley—was 235,000,000 chetverts;* during the first half of the reign of Emperor Alexander III (1881–1887) the average was 263,000,000 chetverts, and during the second half (1888–1894), 276,000,000 chetverts. In 1894, the figures were 332,000,000 chetverts.

HENRY C. MORRIS,

GHENT, *May 31, 1895.* *Consul.*

AMERICAN VINES IN RUSSIA.

Russian viticulture is most advanced in the Caucasus, Bessarabia, and the Crimean regions. Among other vine diseases, the phylloxera, the greatest enemy of the vine, first appeared in Russia, in the Crimea region, in 1879, a year later in the Caucasus, in Bessarabia in 1886, and in the Kutais government in 1889. Every effort to prevent its spread was made. A phylloxera commission was established, and phylloxera committees appointed in every direction. Every preventive known in Europe against the pest was tried, but, in spite of the energetic measures on the part of the Government, all efforts proved fruitless. Large sums of money were expended by the Russian Government for that purpose, and the present appropriation amounts to 4,015,000 rubles ($1,417,295), of which 2,160,000 rubles ($762,-

*1 chetvert=5.956 bushels.

480) will be distributed this year in equal shares between all the affected regions. The approximate data show that in Bessarabia 325 dessiatines (877 acres) are infected with phylloxera, of which 212 dessiatines (572.3 acres) have been exterminated. Twenty dessiatines (54 acres) have been exterminated in the Caucasus. The total area infected can not be defined even approximately. In the Crimea, the area of the infected and exterminated vineyards amounted to only 76 dessiatines (205 acres). Thus only in the Crimea have the results been favorable. Favorable results have been obtained also in Germany and Switzerland; but great damage from the phylloxera was suffered in France until the introduction of the American vine, which proved satisfactory and showed very favorable results.

In the month of March, 1895, several meetings of members of the Russian phylloxera commission were held at the city of St. Petersburg, under the presidency of the Minister of Agriculture. Among the many questions discussed was one concerning the importation of American vines. Objections were raised against their introduction into Russia, but after due consideration it was agreed that the culture of American vines in Russia is indispensable in order to protect the future of Russian vine culture. The Crimean viticulturist seemed to be especially afraid of the American vines, giving the following reasons therefor: The heavy cost, the bad quality of wine produced therefrom, the danger of infection, and the difficulty of grafting. The outcome was, that it was decided to prohibit the import of American vines into the Crimea, but permitting their cultivation from seed. As to the other regions, it was decided that into localities where active combat with the phylloxera had ceased, private parties might import American vines with a permit from the phylloxera committee, and into healthy localities or into localities where the phylloxera still existed, the import of American vines is left entirely to the phylloxera committee.

The present fight with the phylloxera can not be considered successful, and the future may prove to be still worse. To prevent as much as possible the import of different diseases with the American vines a number of preventive measures have been suggested and approved. The vine grafts imported must be packed in closed boxes and disinfected by the agent of the phylloxera institution, and the officers of the same institution must see that the grafts are planted only in the localities for which they were imported. The same rules are to be applied to the vine grafts imported from Europe. Among other measures to be observed is the examination of every vine bush separately, however small it may be.

The Odessa phylloxera board has already marked 42,000 dessiatines (113,387 acres) of vineyards which must be examined during the present year. In Bessarabia, more than 20,000 dessiatines (54,000 acres) were examined last year. Vineyards which are not situated in the wine-making region, but supply others with vine sprouts, will be supervised by persons specially appointed for that purpose by the Minister of Agriculture. It is a known fact that some sandy soils kill the phylloxera, but it has not been as-

certained yet what ingredients such sand contains. Therefore, it has been decided to be necessary to examine the sandy soils in Russia more closely, and to acquaint the local inhabitants with the culture of vine on sandy soil, and for that purpose, to establish as many experimental vineyards on sandy soils as possible, and to lease to private parties sections of sandy lands belonging to the Government. In order to learn the culture of the American vine, and also the different ways and measures for the extermination of the phylloxera, it was decided to establish disinfection nurseries in localities where vines are raised, and to found an experimental phylloxera station in Bessarabia, where, in all probability, it will soon be necessary to have recourse to American vines. The station will consist of a nursery and a laboratory, and its establishment will be intrusted to a commission under the presidentship of J. B. Cristi.

It was decided, also, to establish nurseries for European vines on Government lands in order to spread good stock among peasants possessing vineyards, the number of which is large, especially in the Kherson government, and from the nurseries, which will be exclusively under the control of the phylloxera commission, the vine branches will be distributed to private persons, with the privilege of planting nurseries of their own, but only with the permission and under the control of the commission. The viticulturists in Russia are only allowed to treat their own vines for phylloxera in localities where the treatment is under the care and supervision of the phylloxera commission, but in localities where radical methods are in force as in the Crimea, and some parts of the Caucasus, this is strictly forbidden. It was also agreed by the commission to intercede for the exemption from duty of such materials as are imported for the purpose of killing off the phylloxera, such as sulphurous carbon, sulphur, carbonic potassium, etc. To the committees having the extermination of the phylloxera in charge, the sum of 260,000 rubles ($91,780) was allowed for the present year, to be distributed as required.

The members of the phylloxera committee in Odessa and the Crimean regions are selected by the Zemstvo, and in the Caucasus region, by the board of nobility.

For the unification of the committee's work, it was decided to hold regular meetings at St. Petersburg, or at such place as may be designated by the Minister of Agriculture.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 8, 1895.*

CONDITION OF RUSSIAN WINTER GRAIN.

About April 13, the snow had disappeared in the governments of Vilno, Grodno, Minsk, Courland, Volhynia, Kiev, Chernigov, Tambov, Penza, and Saratov; but a considerable quantity of snow was lying in the governments of Moscow, Vladimir, Kaluga, Kostroma, Nizhni-Novgorod, Smolensk,

Tver, and Yaroslav, although in the upper localities, especially on the sunny side, it had begun to melt. According to the reports of the Government inspectors from different localities in Russia, the snow, on account of the light frosts, melted gradually, especially in the southern localities and in the northern Caucasus; consequently, the water penetrated the ground and filled it with moisture, which is very favorable to the winter grain, particularly in localities which always suffer from drought. Besides, in the Caucasus region, it rained very often, and in the first half of the month of March, snow fell, which, owing to the warm weather, melted quickly. In some parts, the winter grain sprang up from under the snow in a healthy and satisfactory state and is in excellent condition in the Tauride government, and in the Caucasus. It is also in good condition in Russian-Poland, where the grain, on account of the slow melting of the snow, was saved from being drenched, which is often the case. But in some parts of the Kharkov government, the winter grain is, to some extent, damaged by the thaws during the day and freezing at night, causing a formation of an ice crust over the fields, in consequence of which there is danger that, in some districts like Lebedinsk, the wheat crop will be ruined, and the rye, as a stronger cereal, will yield badly. In the government of Poltava, the winter grain is yellow on account of the many frosts in March.

In the governments of Penza, Saratov, Tambov, and Kursk, rapid thaws and a good deal of rain caused, in the lower localities, the formation of large water pools on the fields, which froze over during the cold weather in March, and the crop is reported bad. The damage, which was caused by mice to the grain last autumn is, with some exceptions, insignificant, because the mice did not touch the roots of the grain, but ate simply the green stems. But much greater damage is reported to the grain in the northern Caucasus from a worm. In some localities, the winter crop is destroyed to such a degree that it will have to be sown over with spring grain, although this area is not very great. In the latter part of March, the winter crop was also damaged by an abundance of rain and by the overflowing of the rivers in some parts of the government of Warsaw and Lublin. In the latter government, in the Karsnovstavsk district, 35 per cent of the winter crop is spoiled. In localities where the snow melted very early, the crop is reported in a satisfactory state and growing rapidly on account of the favorable warm weather, especially in the Vistula government, in the southern part of southwestern Little Russia, in the center of the Chernozion regions and in some of the sea districts of the Courland government. A specially rapid growth of crops is reported from the governments of Bessarabia and Cuhan.

The sowing of spring grain began early in all of the above-mentioned governments, and is finished in the northern Caucasus and Bessarabia, with the exception of maize. The late spring of this year is considered very favorable for the spring grain, as it will begin to come out when morning frosts no longer occur.

JOHN KAREL,

ST. PETERSBURG, *May 11, 1895.* *Consul-General.*

GRADING GRAIN IN RUSSIA.

The rules regulating the quantity of foreign matter permissible as admixture in grain, bought or sold, vary in different countries as well as in different localities in the same country. Odessa is the most important grain port, not only in Russia, but in southeastern Europe. The rules recently adopted by the Commercial Board of Odessa regulating the admission of a certain percentage of admixture of foreign matter in grain, may be of interest to the agriculturists of the United States. These rules have been approved by the Russian Minister of Finance and are as follows:

(1) In transactions in wheat for future delivery, or when buying the same from barges, boats, or railway wagons, the normal admixture is estimated at 2 per cent, and delivery thereof is permissible with not more than 5 per cent admixture; but for every one per cent additional admixture, over and above the 2 per cent normal, a deduction of 2 per cent is made from the price of the merchandise.

(2) The admixture of rye in wheat must not exceed one-half of one per cent.

(3) The admixture of earth, dust, straw, and chaff in wheat must not exceed one per cent.

(4) On delivering wheat, the weight of the grain, as supplied, may not be more than 3 pounds per chetvert* less than stipulated in the contract, and for every pound of short weight a deduction of one per cent is to be made from the price of the merchandise. (Three pounds per chetvert is rather less than one per cent, as the weight of wheat may be said to vary between 350 to 400 pounds per chetvert.

(5) In contracts for rye to be delivered at a fixed date, or when buying the same from barges, boats, or wagons, the normal admixture will be considered to be 2 per cent, and the delivery of it to the buyer is permissible with no more than 5 per cent admixture, but for every additional one per cent above the 2 per cent normal, a deduction of 2 per cent is to be made from the price of the merchandise.

(6) The admixture of earth, dust, straw, and chaff in rye must in no case exceed 2 per cent.

(7) When rye is delivered the weight of the grain, as supplied, must not fall below that stipulated in the contract by more than 3 pounds per chetvert; for each pound less, a deduction of one-half of one per cent from the price of the cargo is to be made.

(8) When sales of barley take place, the rule confirmed by the Minister of Finance is observed, according to which an admixture of 3 per cent is considered as normal, and when the same is delivered with a larger quantity of admixture a proportional deduction is made from the price of the merchandise.

(9) When barley is delivered the weight of the grain, as supplied, must not fall more than 3 pounds per chetvert below that stipulated in the contract, and for every pound less a deduction of one-half of one per cent is made from the value of the merchandise.

(10) When sales of oats are made, to be delivered at a fixed date, and when the same is bought from barges, boats, and wagons, 3 per cent admixture must be considered as normal, and delivery of the same to the purchaser is permissible with not more than 5 per cent admixture, but for every one per cent admixture in excess of the 3 per cent considered as normal, a deduction of 2 per cent is to be made from the price of the merchandise.

(11) Varieties of wild oats are included among the quantity of admixture of foreign matter.

(12) The admixture of earth, dust, straw, and chaff among the oats must in no case exceed 2 per cent.

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*1 chetvert = 5.956 bushels.

(13) When oats are delivered the weight of the grain, as supplied, must not fall short of the weight stipulated in the contract by more than 5 pounds per chetvert, and for every pound of short weight a deduction of one-half of one per cent is to be made from the price of the cargo.

(14) An admixture of one per cent is considered as normal for corn, but the same may be delivered with 3 per cent admixture. An admixture in excess of the 1 per cent normal, a deduction of 2 per cent is to be made from the price of the merchandise.

(15) If the per cent of admixture in the grain is a fraction or an entire fraction with a fraction, such fraction, if under one-half of one per cent is to be estimated as one-half of one per cent, and if over one-half of one per cent as one per cent, and the deduction from the price of the grain is made accordingly.

(16) For linseed, 4 per cent admixture is considered normal; for any additional quantity of admixture a proportionate reduction is made on the price of the merchandise; the quantity of admixture in linseed must not be more than 10 per cent.

(17) If in the linseed there is another oil-seed, then 2 per cent of that admixture is estimated as one per cent of linseed.

(18) If linseed is supplied with less admixture than 4 per cent, then the seller has the right to receive from the purchaser a proportionate additional payment.

(19) For rape seed, 20 per cent admixture is considered to be the maximum.

(20) In rape seed, one per cent of any other oilseed admixed is estimated for one per cent of rape seed.

(21) If rape seed is delivered with less than 20 per cent admixture, then the seller has the right to receive from the buyer a proportionate additional payment.

(22) All disputes regarding the application of these rules are to be decided by the arbitration committee existing in connection with the Odessa exchange committee.

(23) If exchange brokers draw up notes by virtue of these rules, then they must enter the same among the conditions of the agreement, the percentages of the permissible admixture and the weight of the grain as supplied.

(24) The exchange brokers are also obliged to take a sample from each parcel of grain sold from a barge, boat or wagon, as well as at sales for delivery at a fixed time, if the grain has been sold on the basis of a sample, and they must hand that sample in to the arbitration committee under the seals of the seller and buyer, and, in case they refuse, under his own seal alone.

(25) If one of the contracting parties does not abide by the contract concluded by virtue of these rules, then the other party, who abides by it, has the right to carry out the agreement through the sworn exchange broker, at the expense of the other party who is in fault.

These rules do not extend to the transactions with ready cargo stored in warehouses, which has been examined by the buyer and approved of. Nor do these rules affect those transactions in which by mutual agreement of both parties, grain must be delivered with a larger or lesser admixture than that by which, in these rules, is declared to be normal.

THOS. E. HEENAN,
Consul.

ODESSA, *May 9, 1895.*

AMERICAN VS. RUSSIAN PETROLEUM IN DENMARK.

A comparison of figures, showing the use of American and Russian petroleum in Denmark for the last five years, may be of interest to American dealers.

On January 1, 1884, the stock on hand was as follows:

Date.	American.		Russian.
	Water white.	Standard white.	
	Cwts.	*Cwts.*	*Cwts.*
Stock, January 1, 1894	12,174	168,435	31,779
Imported in 1894	100,017	573,929	78,260
Total during 1894	112,191	742,364	110,039
Stock, January 1, 1895	28,523	88,821	35,857
Consumed during 1894	83,668	653,543	74,182

The past year, therefore, shows an increase in consumption. When the sales for the delivery during the season started in the month of April, the price was about one-fourth of one öre* per pound net lower than the year before, and this price remained stationary till the end of September, when a small rise began and continued till the end of the year, when it reached one-half of one öre per pound net. This price is exclusive of the receptacle; formerly prices included packing, but owing to the fact that the use of tank steamers and the erection of tanks as wholesale receptacles, and as the petroleum is now sold to dealers direct from the tank, in whatsoever vessel they please to offer, the price is quoted without the cost of packing. The usual form in which it is delivered to consumers is in bottles, corked and labeled much after the fashion of liquors. The big tin barrel with pump attachment and hinged cover over the whole, so common in every American corner shop, is absolutely unknown here. I believe these receptacles could be sold readily here, as they avoid the trouble of having to bottle the oil for delivery, and can be filled readily from the tank.

The quotations to wholesale dealers at the end of the year were as follows, per cwt.: American—water white, 7.45 kroner ($2); standard white, 6.20 kroner ($1.66); Russian, 5.70 kroner ($1.53). At the old price, including packing, the quotations would have been, respectively, 1.50 kroner (40 cents) higher—that is to say, the cost of the barrel.

The relative consumption of American and Russian petroleum during the last five years is shown in the following figures:

Year.	American.	Russian.
	Cwts.	*Cwts.*
1890	403,000	123,000
1891	469,000	128,000
1892	528,000	123,000
1893	636,000	118,000
1894	737,000	74,000

It will be seen from the above that while the consumption of American oil has steadily increased, the opposite is the case with the Russian article,

*1 kroner (26.8 cents)=100 öre.

and particularly during last year there was a heavy decline in the use of Russian petroleum.

As the prices for the American and the Russian article during the same period have been very nearly the same, and are matters of no significance to the poorest consumers, this fact would seem to be a practical proof of the superiority of American oil, and its greater popularity in this market. Dealers claim that Russian petroleum is heavier than the American; also, that it smokes and does not last as well.

This report is extracted from the report of the trade of Denmark, for the year 1894, by the Merchants' Society of Copenhagen.

ROBERT J. KIRK,

COPENHAGEN, *May 24, 1895.* *Consul.*

AUSTRIAN MILITARY SHOES.

I have the honor to forward herewith a translation of the official requirements for military shoes. The Government buys the shoes described from contractors, at a price that varies from 5 to 5½ florins.*

One of the requirements for goods manufactured by contract for the Austrian army is, that they shall be produced in the country, but it is probable that this regulation might be overcome.

It is my belief that American boot and shoe manufacturers could find a market for their product here in Austria, notwithstanding the duty, which amounts to $18 per 220 pounds of made goods.

I can see no better plan to determine this than to submit to American shoe manufacturers a line of Austrian-made boots and shoes which are suited to the wants of the Austrian people. A line of, say, twenty different styles of the most desirable boots and shoes would cost $50 to $75. If any association of shoe manufacturers at home seeks Austrian trade and desires through this method to examine practically whether it can compete with Austrian-made goods, this consulate is in a position and will be pleased to do its share toward determining the question, and, if authorized, will select the most desirable footwear that the shoemakers in Austria produce and will send a sample line without charge for services rendered.

MAX JUDD,

VIENNA, *May 2, 1895.* *Consul-General.*

[Translation of official requirements.]

SHOES FOR THE AUSTRIAN ARMY.

The shoes are made of well-tanned, smeared brown upper leather (cowskin), with heel leather and double inner soles. The inner heel piece is made of tanned "Terzen leather." The heels and soles are made of German sole leather. Twenty different sizes are made, and

* The silver florin was the Austrian money unit up to July 1, 1892, about which date the gold crown became the unit. In a table (CONSULAR REPORTS No. 168, p. 141) showing the wages paid in Austrian hemp mills, the florin is valued (July 23, 1894) at 40.6 cents.

Fig. 1.

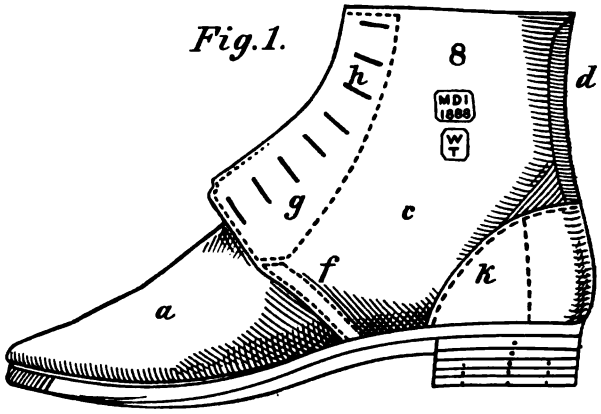


Fig. 2.

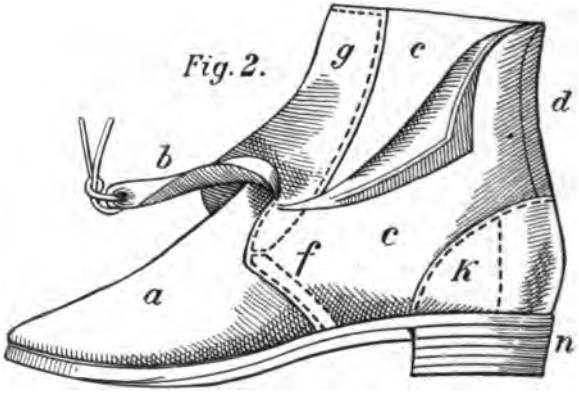


Fig. 4.

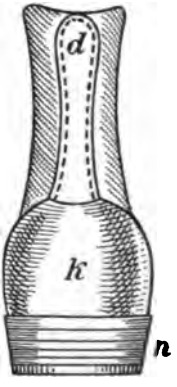
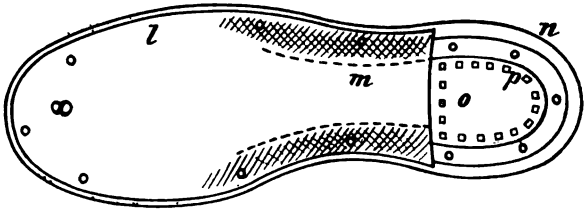


Fig. 3.



ONE-FOURTH NATURAL SIZE.

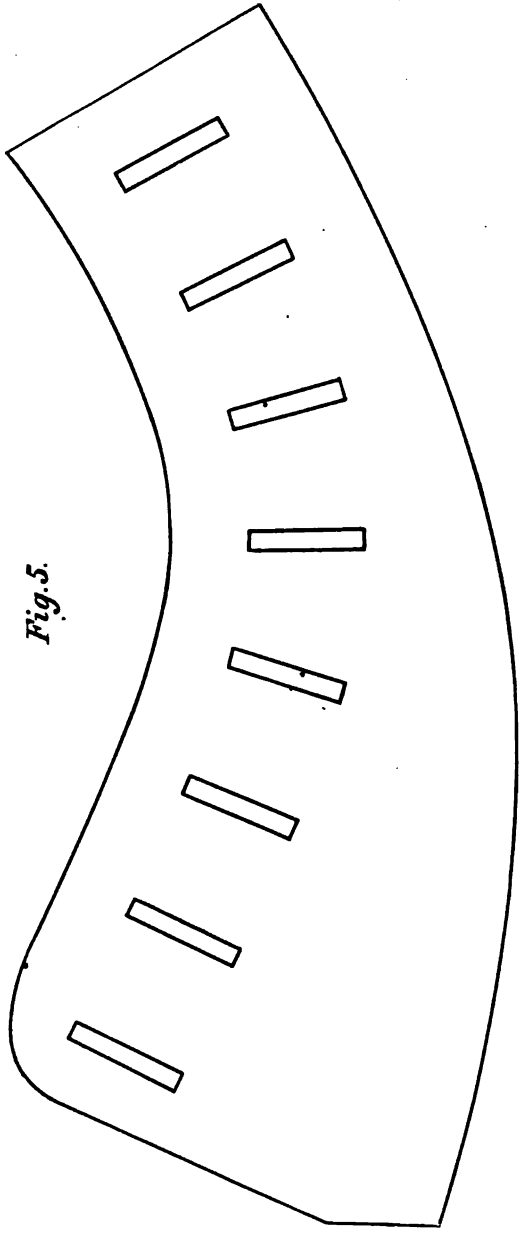


Fig. 5.

NATURAL SIZE.

their shape conforms as closely as possible to that of a normal foot. The various parts made of upper leather have the grain turned outwards.

The forefoot—figs. 1 and 2 (*a*)—is made of upper leather and should be as elastic as possible. In order to prevent the shoe from losing its shape, the forefoot is cut with the grain out of a single piece of leather and fastened by a double stitch to the 10-centimeter (3.9 inches) long tongue, which it covers to a length of one centimeter (0.3937 inch). This fastening must be made in the middle in order to hold, and the double stitch forms a right angle about 2 centimeters (0.79 inch) distant from the edge in order to strengthen the fastening with the sole, side linings of a poorer quality of leather being used. Besides this, the forefoot is bound to the inner sole with wire, and in order that the inner sole should be even, a seam piece of upper leather, strengthened with a piece of pliant German leather, is fastened to the sole and heel.

The quarter—figs. 1 and 2 (*c*)—consists of two parts of the same size, which are bound at the back to their full height by a stick.* The other part is covered with a projecting galoche of weaker upper leather.

The forefoot and the quarter are bound together—figs. 1 and 2 (*f*)—by two stitches separated by a space of 6 centimeters (2.36 inches). The quarters have an inside facing of a weaker quality of leather in order that they should be strong enough to hold the eyelets. The inside facing overlaps the outside of the shoe 3 centimeters, and is fastened by a stitch or by pegs.

The eyelets are punched one centimeter (0.3937 inch) from the rim at equal distances from each other, and it is usual to mark the places for the holes from a pattern before they are made.

The heel piece—figs. 1, 2, and 4 (*k*)—is of upper leather and is fastened, from the outside, by a strip of leather, to the back part of the quarter. The strengthening between the quarter and the heel piece consists of tanned Terzen, and is to prevent the shoes from being twisted in wet weather. In order that the heel piece and the quarter should be joined together as well as possible, the heel piece is sharpened at the seam, at the edges, and at the half circle over the quarter trimmings, and is without paste on these places.

The soles, which are cut with the grain of the leather the entire length of the foot, and are slightly rounded toward the toe, project 0.2 centimeter (0.07 inch) beyond the upper leather of the forefoot. They are fastened to the forefoot by a single row of stitches and to the instep by an additional row of stitches. In order to strengthen the soles, they receive forty hobnails before being used.

The sole that is laid on the inner sole is of tanned Terzen leather of a poorer quality than the real inner sole, and fastened with thin pegs.

The heel—figs. 1, 2, 3, and 4 (*n*)—consists of four leather strips of German sole leather and has an iron plate; the back part of the heel tapers forward from the perpendicular line about 0.5 centimeter (0.2 inch). There are five sizes of heels and heel plates, and the plate is fastened to the heel by five round nails.

The shoe lace is slightly rounded, and is cut out of strong leather.

NEW COMMERCIAL TREATIES.

THE NETHERLANDS AND PORTUGAL.

Minister Quinby sends to the Department of State from The Hague copies, in French, of the agreement, or "declaration," between the Netherlands and Portugal of July 5, 1894, relating to commerce, which was ratified on the 20th of April, 1895, and made public May 13, 1895. It is only a

*As in the report.

temporary agreement to govern commercial intercourse pending the conclusion of a treaty of commerce and navigation.

Article 1 of the declaration provides that the following products of the soil and manufactures of the Netherlands shall pay, when imported directly into Portugal and the islands of Madeira, Porto Santo, and the Azores, the duties fixed by the tariff, including all additional duties:

Description.	Duty per kilogram.*	
	Reis.†	
Jute damasks	1,000	$1.08
Packing cloth and cloth of jute	150	.167
Tissues of jute not otherwise mentioned, unbleached or bleached	650	.702
Sacks of packing cloth or coarse cloth of jute	225	.243
Sugar:		
Refined by the Portuguese method and sugar superior to No. 20 Dutch standard	145	.157
Not otherwise mentioned	120	.13
Cheese	200	.216
Tin, manufactured	200	.216
Tin capsules for bottles	160	.173
Pipes, earthen or of chalk, without ornamentation or incrustation of other material	80	.086
Candles of all kinds for illuminating purposes, excepting candles containing paraffin	90	.097

*1 kilogram=2.2046 pounds. †1,000 reis=1 milreis=$1.08.

Article 2 provides that the products of the soil and manufacture of the Netherlands, when imported directly into Portugal and the islands of Madeira, Porto Santo, and the Azores, shall not be subject to any duty other or higher, by any denomination whatever, than like products of another foreign nation.

Article 3 provides that the products of the soil and industry of Portugal, the islands of Madeira, Porto Santo, and the Azores imported directly into the Netherlands shall not be subject to any duty other or higher, by any denomination whatever, than like products of another foreign nation.

Article 4 provides that, with reference to indirect importation, transit, exportation, reexportation, and navigation, the two governments reciprocally guaranty a treatment of that of the most-favored nation.

Article 5 provides that, in the event the Portuguese Government should grant in general terms to a third country the treatment of the most-favored nation with respect to commerce, this treatment shall, by this very fact, and without other stipulation, be applicable to the Netherlands.

Article 6 provides that concessions which Portugal has granted or may grant to Spain and to Brazil shall not be claimed by the Netherlands as a consequence of the present declaration, but it shall be understood that, if Portugal should concede a division of favors that it should have granted to Spain or Brazil, the Netherlands shall enjoy the same favors.

Article 7 provides that all questions or all differences concerning the interpretation or the execution of the present declaration, as well as any other question that might arise between the two countries, provided they affect neither their independence nor their autonomy, if they can not be settled amicably, shall be submitted for decision to two arbitrators, of whom one

shall be named by each of the two governments. In case of difference of opinion between the two arbitrators, they shall designate in common a third one, who shall decide.

Article 8 provides that this declaration shall remain executory for one year after the exchange of ratifications, and shall continue in force until the expiration of one year from the day when one or the other government shall have denounced it.

Portugal reserves the right to denounce this declaration and to cause its effect to cease three months after, if the present limit of the alcoholic strength of the wines imported into the Netherlands should be lowered to the detriment of Portuguese wines, or if these wines should be affected there by customs duties or greater consumption than the wines of the same character of the country or of any other origin unless the Portuguese Government had consented to a like lowering or differential treatment by a third government, without denouncing the commercial convention connecting it with that country.

The Netherlands make the like reservations in the event that the Portuguese Government should treat the commerce or the navigation of the Netherlands in the Portuguese colonies on a footing less favorable than that of a third country.

PARAGUAY AND BELGIUM.

Minister Stuart sends the Department, from Montevideo, a copy and translation of the commercial treaty between Paraguay and Belgium. It provides that the high contracting parties concede reciprocally the treatment of the most-favored nation in all that relates to their navigation and their commerce of importation, exportation, and transit, and, in general, all that applies to the tariffs, complementary appraisements and accessory customs duties, and commercial operations, besides assuring to the citizens and natives of one of the countries in the other all the civil rights, benefits, privileges, and exemptions for the exercise of commerce and industries and for the payment of the imposts, taxes, and patents that are actually, and that will be in the future, conceded to the subjects and citizens of the most-favored nation.

The convention will be in force until the expiration of one year, counting from the day that one or the other of the contracting parties shall have announced its termination.

The convention was executed May 15, 1894, and ratifications were exchanged December 8, 1894.

GERMAN IMPORTATION OF GRAIN.

A number of motions have been made of late in the Reichstag by some of its members devoted to the agricultural interests for the purpose of raising the prices of grain. There is also under discussion a motion to erect Government bakeries, *i. e.*, the Government to take all the milling and baking establishments existing and operate them.

In view of this fact, it is interesting to scan the last official statements of importations of grain into Germany. As far as wheat is concerned, Germany's foreign wants are met, almost entirely, by four countries—Russia, Roumania, the United States, and the Argentine Republic. The quantities furnished by Austria-Hungary, the East Indies, and other countries are not worth mentioning. In 1894, for instance, the German imports therefrom amounted to but 5 per cent of the total imports, while the Argentine Republic was drawn upon for 30 per cent, the United States for 28 per cent, Russia for 24½ per cent, and Roumania for 12½ per cent. The following comparison of the wheat importations of 1892–1894 is instructive:

From—	1894.	1893.	1892.
	Bushels.	*Bushels.*	*Bushels.*
Russia	10,309,969	794,986	9,454,026
Roumania	5,252,555	5,275,527	3,405,820
Argentine Republic	12,722,177	5,562,797	2,431,295
United States	11,886,376	11,571,511	23,156,126
All other countries	2,224,755	2,642,388	9,179,904
Total	42,395,832	25,847,208	47,627,171

The first thing that strikes one in looking over these figures is the grouping of the Russian importations. Entirely supplanted by the United States in 1893, Russia made good this deficit in the year following. The statement also shows that Roumania is steadily rising in its position as purveyor to Germany. But of more importance than both the points above mentioned are the figures pertaining to the Argentine Republic. Its wheat exportation to Germany, within three years, has risen from 5 per cent to 30 per cent of all Germany's imports.

This enormous rise, together with the decline in the price of wheat and rye, has caused a great deal of unrest in Germany, especially in the Agrarian Party (the landowning class). But the figures of most importance to the German landowner in the grain import of 1894 are those to be noted in rye and the part therein taken by Russia. Rye importation, which dropped exceptionally low in 1893, rose in 1894 to its usual height. The total importations of rye into Germany in 1893 amounted to 8,828,730 bushels of 56 pounds each, and in 1894 to 25,731,795 bushels. The most noticeable and essential fact is that 76 per cent of all the rye imported to Germany in

1894 came from Russia. While there is nothing remarkable in the mere fact of Russia predominating as an exporter of rye, the figures given above show the effect of the reopening of the Russian border, dating from the time when Germany reduced the duty on Russian rye.

It is a question of continual discussion among German national economists whether it is prudent to open the German border to Russia at a time like the present, with a superabundance of home grain, and prices much depressed.

The importations of rye into Germany during 1894 were: Russia, 21,000,748 bushels; Roumania, 3,481,760 bushels; Bulgaria, 424,255 bushels; United States, 219,314 bushels; Turkey, 173,431 bushels; Belgium and Holland, 289,826 bushels.

OSCAR GOTTSCHALK,
Consular Agent.

MARKNEUKIRCHEN, *March 20, 1895.*

SNUFF IN DENMARK AND SWEDEN.

A letter from New York making inquiries as to the snuff manufacturing interests in the Kingdom of Denmark, and more especially in the city of Copenhagen, has suggested to me the propriety of putting the data collected in answering that letter in the form of a report.

The manufacture of snuff, as an industry, has never been of any importance in Denmark, and is now practically of no significance whatever. While the use of snuff was very general all over Europe one hundred years ago, it is now rarely used in Denmark, except by Swedish people living here and by the old men and women of the peasant class, who believe that the use of snuff helps the failing eyesight. Statistics, therefore, are not available, as the commodity has never been considered of sufficient importance to warrant the compiling of the figures.

Some snuff is manufactured here, but the largest firm in the business, established about one hundred and fifty years ago, produces now only 2,000 pounds per annum. In some of the provincial towns, there are also smaller factories, but the whole amount manufactured in this country does not exceed 35,000 pounds annually. Iceland is now the only place to which Danish snuff is exported, and that island takes the whole quantity manufactured here. Snuff was exported to the Danish West Indies fifty years ago, but this has now ceased entirely.

A peculiarity concerning the use of snuff in Iceland may be of interest. I am told that the snuff is made into bars, after the manner of plug tobacco, and sold to the natives in that shape, nearly all of whom are addicted to its use, and prefer it thus prepared. The Icelander allows the nail on the right-hand thumb to grow long for the purpose, and when using the snuff scratches it off the bar with this nail on to the back of the left hand and applies it to the nose. A considerable quantity of snuff is imported into Denmark from

Sweden, exclusively for the use of the Swedes residing here and for the old people of the peasant class as described above. Sweden, in fact, seems to be the principal snuff-producing country of northern Europe at least, if not of the world, the use of the article being very general among the peasant classes. The habit is even carried to extremes, the consumer not infrequently filling his mouth with the stuff and chewing it as a tobacco chewer does his quid.

In Stockholm, Gothenberg, Carlshamn, and Malmo there are large and well-known factories, the snuff from each place being designated by the name of the city where it is manufactured. The factory in Malmo, which was established in the year 1772, does a considerable business, but mostly in Sweden. This factory has not less than nine grades of snuff which I give, with the wholesale prices, viz:

Kinds.	Price.	
	Kroner.	
Carott Hollander.....per 425 grams...	2.00	$0.536
General mixture.....do.....	1.40	.375
Kockums rape:		
No. 1.....per kilogram of 2.2046 pounds...	2.12	.668
No. 1.....per 425 grams, in bottles...	1.10	.295
No. 2.....per kilogram...	1.90	.509
Paris.....per 425 grams...	1.50	.392
Smelling snuff.....per kilogram...	1.90	.509
Light-colored snuff:		
No. 1.....do.....	1.90	.509
No. 2.....do.....	1.64	.440
No. 3.....do.....	1.54	.413

Particular inquiry has been made for a brand of snuff known as "Copenhagen snuff," but I can learn nothing of it here. As I have already stated, Denmark is of no importance as a snuff-manufacturing center. Information on this subject can be better obtained in Sweden.

ROBERT J. KIRK,
Consul.

COPENHAGEN, *February 18, 1895.*

ASPEN WOOD FOR MATCHES.

The manufacture of matches in Germany, which has risen to be an industry of importance, employs pine, poplar, aspen, linden, and birch woods. Of these woods, aspen has proved itself indispensable in the manufacture of matches by reason of its natural qualities and the ease with which it can be worked up. It is distinguished by its large structure, ready combustibility, freedom from knots, and uniformity of substance.

The flame of a match, as is well known, is conveyed to the wood from the igniting composition by sulphur, as in the case of lucifers, into which

the splints are dipped. In the case of Swedish matches, the sulphur is substituted by paraffin. The sulphur, where this is used, remains on the outside of the wood and dries at once. The paraffin, however, must penetrate into the wood, partly because the matches would otherwise stick to each other, but principally because the paraffin becomes fluid again at even low degrees of heat and would penetrate the igniting composition and render it useless. For safety matches, therefore, a wood is required which has light and spongy pores, as found only in the aspen, whose bright white color further gives it an agreeable appearance. Poplar has a gray color and is brittle; birch wood becomes yellow and is seldom obtainable in stout logs. These woods are also slow of combustion. Pine and fir woods take up little paraffin owing to the resin they contain.

In order to keep the pores as open as possible, and, also, to work up the wood to the greatest advantage, the aspen splint is produced by flaking. Aspen possesses the quality of being flakable to a very high degree. The flaking is done by causing a knife to revolve round a log which rotates on its own axis. The wood is divided into ribbons of the thickness and width of a match; these ribbons are laid evenly, one above the other, and cut into square splints. In consequence of the uniformity of the annual layers, aspen wood produces perfectly homogeneous ribbons or splints. This is not the case when other kinds of wood, like fir, etc., are flaked. The absence of all structure or grain further enables aspen wood to be flaked into thin shavings, which are worked by other machines into the familiar match boxes. Just this fact that both match splints and box shavings can be produced by one machine from one material, calls for the employment of aspen wood. Attempts have been made to flake fir and pine woods as substitutes for aspen, but it is not known that any results of importance have been obtained. The reason why the last-mentioned woods can not be flaked is, probably, because of the difference in the annual rings between the spring and fall wood—that is, between the inside of the ring and its extreme outside the difference is too great. The fall wood is too solid, the spring wood too soft, and the annual rings are of varying thicknesses, according to the location of the tree, while, even in the case of pine, the knife is apt to slip and cut ribbons of unequal thickness. In the case of aspen wood, each ribbon is like the other, a circumstance which is of the utmost importance for the further processes.

Match manufacturers require that the aspen wood should be free from rotten pith, and, as far as possible, free from knots—free from pith, otherwise the wood can not be fixed in the flaking machine; free from knots, because the wood round the knots is decayed. The wood should further be straight grown and of loose texture. The aspen is available for match making as soon as the trunk has a diameter of 8 inches. The demand is greatest for trunks with a diameter of 10 to 20 inches. To attain this size, a period of twenty-five to sixty years is necessary, according to the nature of the soil, position, etc. Trunks from twenty to thirty-five years old are preferred to

younger growths for the reason that the method of manufacture produces the same amount of waste, whether the trunks be small or large.

The match factories which employ aspen wood are mostly situated in Silesia, Pomerania, Schleswig-Holstein, Bavaria, Rhine Province, Alsace-Lorraine, Rhine Palatinate, and the Duchy of Anhalt. These factories use on the whole 4,000,000 to 5,500,000 cubic feet of aspen wood, of which about 3,500,000 cubic feet are imported from Russia.

The Silesian factories, mostly through dealers, procure their wood from Upper Silesia, Poland, Galicia, and Hungary. To procure wood from the districts of Königsberg and Gumbinnen is unprofitable, because the freight is considerably higher than from Cracow or the Tatra. Regular direct purchases in Upper Silesia are not possible, for the reason that there are no large compact stocks of trees, and the various individual forests only produce a few carloads each, which are too dear when account is taken of the personal attendance requisite to purchase. The cubic meter (35.316 cubic feet) of aspen wood, delivered free at railway station, costs from 17 to 26 marks ($4.05 to $6.19) according to quality; aspen of 25 to 50 centimeters diameter, 26 marks ($6.19); of smaller diameter, 20, 21, and 24 marks ($4.76, $5, and $5.71). The wood from Poland, Galicia, and Hungary is not essentially dearer than the wood from Upper Silesia. Where grown it costs 10 to 14 marks ($2.38 to $3.33), and, although the customs duty has to be added to this, the higher price is compensated for by the superior quality of the wood. The freight rates are various. Ten thousand kilograms (22,146 pounds) contain about 12 to 14 cubic meters (424 to 615 cubic feet), the freight for which from Upper Silesia would be about 50 to 60 marks ($11.90 to $14.28), and from Poland and Galicia, about 120 marks ($28.56).

For the factories in Pomerania, the principal sources of supply are Riga, Kovno, Libau, Windau, and St. Petersburg, where dealers do a lively trade. The wood is felled in the forests, brought down to the sea and shipped when water communication is open. It is sold in the form of logs from 3 to 7 meters (16.4 to 23 feet) in length, with both ends cut smooth. The ports through which aspen wood is imported are Königsberg, Danzig, Kolberg, Rügenwalde, Flensburg, Lübeck, Amsterdam, Antwerp, Stettin, and Bremen. The prices for Russian wood vary according as the wood comes rafted or unrafted to the market. Unrafted wood costs delivered in Bremen, including the customs duty of 1.20 marks, 25 marks ($5.95); rafted wood, 21 marks ($5). Such prices, however, are only good for contracts for the whole year; in other cases, they are about 10 per cent higher. The freight rates by direct steamer from Riga are 16 to 18 pfennigs (3.8 to 4.3 cents) per cubic foot, and from Kovno, via Lappienen-Königsberg, by lighter, about 10 pfennigs (2.4 cents) per cubic foot delivered in Danzig. The prices are advancing from year to year.

The factories in Anhalt use native wood partly, from the neighboring forests, and partly Russian wood, via Stettin. The price is 28 to 30 marks ($6.66 to $7.14).

For Westphalia, the wood is shipped in steamers from Riga to Amsterdam and thence by rail. The cubic foot delivered in Amsterdam costs from 71 to 86 pfennigs (17 to 20½ cents), according to quality.

In Alsace-Lorraine, the wood is taken from native forests, but it is no longer very thick and can not be flaked, but must be planed. The stocks have been freely felled in the last ten or fifteen years, and no care has been taken to replace them. In consequence of the enormous expense, the wood of East Prussia is out of the question for the Alsatian factories, which are, therefore, in a very difficult position. Prices here have risen 10 to 15 per cent in late years and are still rising.

The factories in Schleswig-Holstein procure Russian wood via Libau and Königsberg. The freight rates from the former city are 5 marks ($1.19) and from the latter 6 marks ($1.43) per cubic meter (35.316 cubic feet). The price for wood, duty paid, is 20 to 21 marks ($5.76 to $6) per cubic meter.

In the Rhine Palatinate, Russian wood is partly used, which costs 34 marks ($8.09) per cubic meter duty. paid and delivered free.

The factories in the Hundsrück use aspen wood from the forests in Nassau, Bavaria, and the Eifel; Russian wood is too expensive. The wood is procured in logs of 2 meters (6.5 feet) in length.

In Bavaria, where the wood is also becoming scarce, native wood from Upper and Lower Bavaria is used. The wood is furnished sawed in lengths of 2 meters (6.5 feet), as logs of such length enjoy lower freight rates.

The rapid decrease of the native stocks of the aspen, and the subsequent enhancement of the prices of this raw material, together with the difficulty of obtaining it, led a number of chambers of commerce to memorialize the Minister of Agriculture and Forestry and petition him to cause the foresters in whose districts match factories are located to pay more attention to the growth of the aspen. A similar representation has been made by parties concerned to the French authorities. The Russian manufacturers, seeing their advantage over their German and French colleagues, were not slow in petitioning their own Government to prohibit the exportation of aspen wood.

This European scramble for aspen wood can well be settled by supplying these factories with wood from the United States, where the aspen is yet an ubiquitous tree, used but little for mechanical purposes.

IMPORTS AND EXPORTS OF MATCHES.

In connection with the above, the following tables, showing the value of matches imported into, and exported from, Germany in 1893, will be of interest:

Imports.

Sweden	$30,762
Austria-Hungary	6,010
Belgium	2,678
Italy	2,676
Total	$42,126

Exports.

To—	Value.	To—	Value.
Europe, Asia, and Africa:		America:	
Netherlands	$65,688	Central American republics	$21,268
Belgium	60,014	Brazil	11,186
Greece	23,800	Haiti	9,282
Dutch East Indies	22,134	United States	2,618
Switzerland	14,756	Chile	1,666
British East India	11,900	Venezuela	1,190
West Africa	10,710	Argentine Republic	952
Great Britain	10,472	Colombia	952
Austria-Hungary	9,282	Ecuador	714
Italy	8,568	Uruguay	476
Turkey	1,190	West Indies	238
Total	238,514	Total	50,542
Other countries	4,874	Grand total	293,930

THEODORE M. STEPHAN,
Consul.

ANNABERG, *March 22, 1895.*

SAMPLE ROOM FOR THURINGIAN PRODUCTS.

At a meeting of the Thüringer Gewerbe Vereine (societies for industrial interests) held last year at Erfurt, it was decided to establish a permanent exhibition of samples of Thuringian products. The chief object was the stimulation of the languishing industries of Thuringia, which, it was decided, could be best accomplished by opening up new channels of trade through the medium of the establishment of a *Musterlager*, containing samples of all the varied manufactures of Thuringia, by a society devoted to the development of its industry, and active in making its products known abroad.

Similar societies already exist at Dresden and Stuttgart for the encouragement of home industry in the Kingdoms of Saxony and Würtemberg, respectively, which are in a flourishing condition, and Leipsic is about to follow their example.

It is the purpose of the society especially to encourage the smaller manufacturers, who are in many cases uninitiated in export trade methods, and to endeavor to extend their trade by opening up new markets to their products.

Commercial travelers, who regularly visit Germany in their capacity as buyers for American houses, will welcome this innovation, it being of the greatest advantage to them, since it obviates the necessity of traveling from town to town in placing their orders. They will find at this central sample depot a full line of goods, with prices, conditions, competent salesmen, etc., and have the immense advantage of comparing similar goods from different manufactories. I would also call the buyer's attention to lines of goods he,

perhaps, had heretofore bought to less advantage elsewhere, as well as goods entirely new to him.

The scheme will have its adversaries in the person of wholesale representatives who buy largely for American houses. Their mediation would not perhaps be sought to the same extent as heretofore, the buyer being in a position to approach, in an easier way, the market of the goods of interest to him.

The second class of objectors to the *Musterlager* are the large manufacturers, who export and have old-established connections; these view with fear the possible rivalry of smaller concerns, and the encroachment upon markets already secured to them. The American importer, hence the consumer, will enjoy the benefit of such healthy competition as may arise.

Weimar, the seat of the *Musterlager*, was chosen at a meeting held in Erfurt, which town was its sole rival.

The Grand Duke of Saxe-Weimar-Eisenach has expressed great interest in the enterprise, and has guarantied the support of his Government, which also has its seat at Weimar. The municipal administration has taken action in support of the scheme by voting an annual subvention of 2,000 marks ($476) for the first two years. The Permanent Arts and Art Industrial Society of Weimar has also shown its sympathy in a practical manner by having already paid 2,000 marks for the encouragement of the society's *Musterlager*.

The opening will be in the autumn. To meet the first expenses that must be incurred, it is intended to issue bonds of 50 marks ($11.90), each bearing interest at 4 per cent, which will be subscribed for by the members. The budget for the first year is as follows:

Description.	Amount.	
Expenditures.	*Marks.*	
Cost of furnishing, etc.	2,500	$595
Salaries	4,500	1,071
Advertisements	3,000	714
Postage and stationery	2,000	476
Rent	1,500	357
Insurance	500	119
Total expenditures	14,000	3,332
Receipts.		
From members	4,000	952
From exhibitors	3,000	714
Commission on sales	8,000	1,904
Total receipts	15,000	3,570

It is intended to use the balance in advertising.

The following are extracts from the statutes of the society:

The Vereine Musterlager Thuringer Erzeugnisse has been created for general profit, and its domicile placed at Weimar.

Its purpose is to be a common organ for commercial interests of all Thuringian industrial and professional lines, to promote exportation to foreign countries, and to place the Thuringian industries and their connections upon a higher plane.

The society will execute this purpose by the following means:

(1) Creation of a head office at Weimar, with sample depot for the inspection of intending buyers.

(2) Engagement of agents in other towns, with or without samples.

(3) Formation of a list of all manufacturers in Thuringia, arranged by lines of business and kinds of goods made.

(4) Observation of the wants of commerce, publication of notes regarding new articles, etc.

(5) Distribution of recommendations and catalogues of Thuringian goods, etc.

(6) Attraction of buyers and arrangement of sales.

(7) Collection of samples of foreign industrial goods, and creation of a commercial library.

Membership can be obtained by any firm or person in Thuringia possessing civil rights by the payment of 25 marks per annum. Members have the right—

(1) To demand, free of charge, information and advice on export matters.

(2) To have inquiries made about foreign firms and samples of foreign origin procured upon the payment of actual expenses incurred.

(3) To use, free of charge, at the Weimar *Musterlager* one square meter (10.642 square feet) of ground or wall space for the exhibition of their manufactures, patterns, models, price lists, etc. Additional room may be had upon the payment of 10 marks for each additional square meter.

(4) To have sales effected through the medium of the *Musterlager*, for which a commission of 5 per cent is charged.

The direction of the society is in the hands of a committee of three to five members, and a council of fifteen to twenty-five members.

The members of the society are leading business men of Weimar.

I think the samples thus exhibited will be of the greatest value to the commercial agent, since it will enable him to discover any attempted undervaluations.

It is intended to exhibit foreign samples, which will also be very advantageous to American industries.

I shall place any matter, such as price lists, trade periodicals, etc., which are sent to this consulate from the United States on exhibition, and in this way further our foreign trade interests.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *May 14, 1895.*

WAGES IN JAPAN.

I have the honor to forward, for the information of the Department, copies of certain tables showing the statistics of wage rates, which I have secured through the courtesy of one of the foreign banks in Yokohama. These tables are marked 1 and 2, respectively. Table 1 shows, in local currency, the highest and lowest price paid in Japan in 1892 for labor of various kinds, and the places where the highest and the lowest prices were paid; this table was obtained through the largest Japanese national bank in the city. Table 2 relates only to wages paid in the city of Yokohama; it

was prepared by one of the secretaries in the Kencho (prefects office) from data obtained from the police department and the various trade guilds. I have added to this table a column showing a reduction of the figures given to the basis of our currency, valuing the yen, for the purpose of this calculation, at 48 cents, which was a fair average exchange value for the month of January, 1895.

TABLE 1.—*Wages of Japanese artisans and laborers in 1892.*

Description.	Highest.		Lowest.		Average in Japan.
	Place.	Wages.	Place.	Wages.	
Per day		*Yen.**		*Yen.**	*Yen.**
Carpenters	Kanagawa	0.50	Akita	0.20	0.316
Wall pasters	do	.60	Shimane	.20	.316
Stonecutters (masons)	Tokyo	.69	Akita	.22	.363
Wood sawyers	do	.50	do	.13	.309
Roof builders	Kanagawa	.60	Wakayama	.20	.298
Bricklayers	Gunma	.88	Shimane	.20	.339
Matting makers	Kanagawa	.50	Akita	.20	.303
Makers of doors, screens, etc	do	.55	do	.17	.304
Paper screens, etc	do	.55	do	.20	.317
Box makers (furniture)	Tokyo	.53	do	.17	.30
Tailors:					
For Japanese clothes	Aomori	.60	Hiroshima	.15	.281
For foreign clothes	Okayama	1.00	Fukushima	.25	.492
Dyers	Aomori	.60	Akita	.05	.253
Watauchi (cotton beater)	Kanagawa	.45	Shimane	.13	.239
Blacksmiths	do	.60	Nügata	.18	.309
Porcelain makers	Hiogo	.50	Yehime	.13	.298
Lacquer makers	Aichi	.58	Aomori	.15	.295
Oil pressers	Tokyo	.34	Nügata	.16	.255
Tobacco makers	Kumamoto	.50	Shimane	.11	.265
Printers (pressmen)	Hokkaido	.70	Akita	.11	.266
Shipbuilders	do	.70	Shimane	.20	.335
Compositors	do	.83	Kagoshima	.10	.290
Wine (sake) makers	Kanagawa	.50	Yehime	.15	.290
Sauce (shoyn) makers	Kumamoto	.40	Chiba	.10	.241
Farmers:					
Men	Hokkaido	.30	Kanagawa	.16	.190
Women	do	.28	Miyeken	.06	.119
Silkworm cultivators:					
Men	Kagawa	.50	Akita	.10	.221
Women	do	.40	Yamaguchi	.07	.15
Silk weavers (women)	Kanagawa	.25	Akita	.05	.17
Tea makers (men)	Akita	.60	Tokushima	.15	.313
Coolies	Kanagawa	.33	Hiroshima	.14	.22
Per month.					
Weavers:					
Men	Hokkaido	12.00	Tokushima	1.00	4.83
Women	do	12.00	do	1.00	3.30
Confectioners	Kumamoto	12.00	do	1.00	5.74
Farm hands:					
Men	Shizuoka	5.00	Yamanashi	1.00	2.31
Women	do	3.50	Hiroshima	.49	1.28
Domestics:					
Men	Hokkaido	5.00	Tottori	.50	2.12
Women	do	3.00	Ishikawa	.59	1.16

*The average value of the yen in 1892 (United States Treasury valuation) was 68 cents.

TABLE 2.—*Wages at Yokohama (January 18, 1895), per working day of ten hours.*

Description.	Wages.		Description.	Wages.	
Per day.	*Yen.**		*Per day*—Continued.	*Yen.**	
Carpenters	0.55	$0.26	Silk spinners (female)	.35	$0.17
Plasterers	.55	.26	Tea workers (picking and preparing)	.60	.29
Stonecutters	.65	.31	Tea firing:		
Sawyers	.60	.29	Male	.20	.10
Roofers	.55	.26		.30	.14
Tilers	.65	.31	Female	.15	.07
Matting makers	.50	.24		.25	.12
Screen makers	.55	.26	Common laborers	.40	.19
Joiners	.60	.29	Confectioners	.35	.17
Paper hangers	.50	.24	Sauce makers	.50	.24
Tailors:			*Per month.*		
For Japanese clothes	.50	.24	Farm laborers:		
For foreign clothes	1.00	.48	Male	3.00	1.44
Dyers	.50	.24	Female	2.50	1.20
Cotton beaters	.35	.17	Silkworm breeders:		
Blacksmiths	.75	.36	Male	4.00	1.92
Porcelain makers	50	.24	Female	2.00	.96
Porcelain artists	.80	.38	Weavers (female)	2.00	.96
	1.50	.72	Servants in foreign houses:		
Oil-press men	.50	.24	Male	6.00	2.88
Tobacco cutters	.50	.24		15.00	7.20
Printers	.40	.19	Female	5.00	2.40
Ship carpenters	.60	.29		10.00	4.80
Lacquer workers	.50	.24			
Compositors	.60	.29			
Sake brewers	.45	.22			

*Yen valued at 48 cents.

N. W. McIVOR,
Consul-General.

KANAGAWA, *April 15, 1895.*

NIGHT REFUGE FOR WORKINGMEN.

For the purpose of giving shelter over night to poor, destitute, and honest artisans out of work, whose spirit forbids them to beg or accept the degrading hospitality of a police quarter, a few prominent, liberal-minded, and public-spirited gentlemen of this city came together in 1887 to organize the "Societa per gli asili notturni in Torino," *i. e.*, a society to offer night refuge to homeless workingmen.

A solid stone edifice of massive structure, built for and used during the exposition of 1884, was leased and changed for the purpose. The opening of the refuge took place in January, 1888..

The "tramp," in the American sense, is altogether unknown on the Continent of Europe. When men leave their country, they generally do so to find work elsewhere; as a rule, they are equipped, if not with a certificate as craftsmaster or apprentice, at least with strong arms, a keen desire to work, and such papers as are requisite and necessary to give documentary

evidence of having been born of Christian parents, christened, vaccinated, confirmed, and having the permission from their home authorities to travel for a given term. A wanderer not possessing such papers is not kindly treated by private persons, while local officials will try hard to rid themselves of such an unwelcome visitor by expediting him with dispatch to the next provincial district, and so on until the unfortunate reaches his home again. Occasionally, a truly philanthropic society will assist him with funds enough to go to the United States.

The refuge is beautifully located on the corner of Via Burdin and the Corso Massimo d'Cozelio opposite the Valentino Park. It is a high one-story building. To the right of the large entrance hall are the office and the disinfecting and wash rooms; the reading room, dormitory, and two smaller rooms for families are on the left of the entrance.

The building is heated by steam, lighted by gas, has running water and ample water-closets of the latest improved method—accommodations which even in good Italian hotels are often sadly missed.

The receiving hour is at 6 p. m., or later, according to the season. The newcomer's name, nationality, his age, religion, and trade are registered—all nationalities, ages, and religions are treated equally. After an obligatory shower bath, clean clothing is given him, while his own, in the meantime, is disinfected and cleaned, by chemical process, if necessary. Then he has leisure to go into the reading room or can smoke in the adjoining garden and under the portico. A physician is at hand to attend to little ailings or wants, the medicaments for which are taken from a house chest standing in the office. At 9 p. m. a large bowl of meat soup, with plenty of vegetables, is served to the hungry, and at 10 o'clock the doors are closed and the inmate can take to his bed, thirty of which are in the large dormitory. The beds are such as are used in the new barrack hospitals in Germany; they are of iron, have a mattress, two pillows, linen sheets and covers, blankets and a comforter, all scrupulously neat and clean. The dormitory is well ventilated above and has tiled flooring. For the whole house, the proverbial phrase, "clean enough to eat off the floor" holds good.

Should a father or mother with children apply for admittance, two separate rooms are set aside for such purposes, containing each three beds; single women are never admitted.

At 7 o'clock a. m. in summer, and at 8 in winter, the inmate is obliged to leave the refuge, the place receiving a thorough cleaning and overhauling every day.

No police or other surveillance is kept; two attendants look after all that is necessary. The refuge, however, is in telephonic connection with the *Questura* (police headquarters), and the principal hospitals in case of emergency. So far, these places have never been appealed to.

The applicant is permitted to use the refuge four consecutive nights, but this can be extended to seven nights. He is permitted to return to the refuge after a lapse of two months.

That these temporary inmates are grateful is evident; that they are often very talented, also, is equally apparent, for the portico and reading room contain many fine sketches in water color and crayon made by poor artists, who found here a night's rest and a plain meal on their way across the Alps to or from the Eternal City and elsewhere.

The institute is purely a private enterprise, supported by contributions of annual, honorary, and perpetual members, who pay $50 and $100 respectively. The institution once received a subsidy from the Government of $200, and from the municipality of $300. It receives gratuities, also, from the foreign consulates represented in Turin, with the exception of the commercial agent of the United States, who has no funds at his disposal for such purpose, notwithstanding the fact that twelve "stranded" Americans received the hospitality of the refuge in 1893.

During the last fiscal year, 8,500 lire ($1,640) has been the total income from which 13,877 people were given shelter, representing 30,827 nights.

Next to the Italians, the largest contingent applying for admission are French (1,222), Swiss (490); Germans and Austrians follow, and even Egyptians and Moors are received in the institution.

The management of the refuge is nonsectarian. Catholics, Protestants, and Jews work together, solely for one object—the good of their fellow-men.

It is simply astonishing what private charity has done and still does to lessen the misery in this city. In regard to distributing charity systematically and practically, the benevolent Turinese is far ahead of his kind in all cities I know of—in Europe as well as in the United States.

The Asilo Notturno Umberto Primo is a model institution in its way, equal, if not superior, to those I had the honor to describe in my report of May 1, 1894,* and worthy to be known and imitated in so benevolent a nation as the United States.

W. E. MANTIUS,
Commercial Agent.

TURIN, *September 29, 1894.*

GERMAN AND FRENCH DAMS AND RESERVOIRS.

The bursting of the dam at Bouzey, in the Vosges Mountains, with the frightful loss of life and property resulting therefrom, brings Johnstown's disaster vividly to mind and awakens interest in the question of how best to construct dams and reservoirs. I remember the state of terror which formerly prevailed in certain New England villages lest the dams should burst and the vast volumes of water inundate and destroy everything in the valley. I remember also that certain reservoirs cost much more to keep in repair than to build, and that others were veritable sinking funds of wealth. All this led me to examine the reservoir that supplies Chemnitz and to compare

* Printed in CONSULAR REPORTS No. 168 (September, 1894), p. 35.

it with that which has just burst at Bouzey. In the Bouzey reservoir, mistakes were made in the manner of construction. In the first place, the wall against which the enormous volume of its 7,000,000 to 8,000,000 cubic meters (247,212,000 to 282,528,000 cubic feet) of water pressed was built straight instead of arched, and the bottom of the basin was a porous clay, which did not permit of a foundation or base on natural stone or rock.

The walls went down 8 meters (26.25 feet) below the surface of the earth, and were 20 feet thick at the base. Against this wall, pressed the great volume of water already recited, covering 120 hectares (296.52 acres).

The reservoir which supplies Chemnitz covers only 4 hectares (9.88 acres) and contains only about 360,000 cubic meters (12,713,760 cubic feet) of water, and has an arched wall (the arch, of course, against the point of pressure) 8 meters (26.25 feet) below the bottom of the reservoir, 20 meters (66.45 feet) thick at the base, 14 meters (46 feet) thick at the surface of the earth, and 4 meters (13.12 feet) thick at the top, or, in other words, this wall holding back only one cubic meter (35.316 cubic feet) to Bouzey's 222 cubic meters (7,840 cubic feet) not only has a wall sunk just as deep, as broad at the base, at the surface of the earth, etc., but has that wall arched and the convex of the arch against the water pressure, giving extraordinary strength to the dam, and, consequently, security of life and property.

The reservoir at Bouzey cost $600,000, and for repeated repairs five times that sum, or $3,000,000; the one at Chemnitz* cost originally $297,619, and, up to date, practically nothing for repairs.

The Bouzey and Chemnitz reservoirs are known as the Thalsperre kind—that is, they are built up by damming across a valley and thus accumulating hill or mountain waters in the space between the hills above the dam. The system prevails all over Germany, and all are constructed in about the same way as the one at Chemnitz.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *May 4, 1895.*

*Strictly speaking, the Chemnitz reservoir is at the small village of Enisiedel, a few miles from the city.

NOTES.

Labor Arbitration in France.*—Consul Whiley writes from St. Etienne June 4, 1895:

From the report of Mr. Moron, director of the "Office du Travail," recently published by the Department of Commerce and Industry, it appears that while there was a very material decrease in the number of strikes during 1894, the proportion of cases in which resort was had to the provisions of the conciliation and arbitration act was considerably in excess of that of the previous year, it being a little over 17 per cent in 1893, and nearly 26 per cent in 1894.

As a convenient method of comparison between the operation of the law during the first and the second year after its enactment, I have tabulated a few of the figures:

Description.	1893.	1894.
Number of strikes	634	391
Number of proceedings under the act	109	101
Proceedings invoked by workmen	56	51
Proceedings invoked by employers	5	4
Proceedings invoked mutually	2	2
Proceedings initiated by justice of the peace	46	44
Refusal by workmen to submit question	6	4
Refusal by employers to submit question	37	24
Mutual refusal to submit question	2	1
Work resumed before hearing	13	8
Work resumed after hearing, but before formal announcement of decision	.....	6
Solution reached by committee or arbitrators	39	32
Refusal by workmen to ratify decision	2	.....
Refusal of referee to serve	1	.....
Refusal of one or both sides to appoint arbitrators or referee after failure of committee to agree	18	16
Failure to agree by committee, not followed by arbitration	.....	10

The number of workmen taking part in the 391 strikes of 1894 was 54,576; the number of establishments closed during the continuance of the respective strikes, was 1,731; and the number of days without work, aggregating the days lost by each workman, was 1,062,480.

In the 32 cases where a solution of the difficulty was reached by the committee of conciliation or by the subsequent arbitration, the demands of the workmen were granted in 10 instances, refused in one, and a compromise decision was rendered in 21.

Colombian Export Duty on Coffee.—Consul Smyth, of Cartagena, Colombia, reports May 25, 1895:

During last month, a tax of $1.60 was laid by this Government on every 100 pounds of coffee exported from Colombia or used for home consumption. This tax is necessitated by the depleted condition of the treasury, impoverished by the heavy expenses of the war, to

*See CONSULAR REPORTS No. 173 (February, 1895), p. 70.

which may be added the perennial and ever-pressing difficulty of redeeming, without adequate funds, the nation's outstanding paper currency. In conjunction with this tax of $1.60, all exporters have to pay $10 in "stamps" for every manifest of shipment—a rule which will inevitably decrease the number of shipments of coffee, while leaving the annual aggregate amount exported the same.

To these burdens on the coffee trade, about which the merchants here are naturally much concerned, has been added the usual legacy of war in these countries—ruined crops and crippled means of transportation.

News reaches me from the interior that, owing to the scarcity of laborers during the war, coffee berries were allowed to ripen and spoil without being gathered, the planters thus losing this season's crop. On account of the wholesale destruction of mules and burros by the troops in some important localities, a serious difficulty is being encountered in conveying coffee to the Upper Magdalena for transportation by river steamer to this port and Barranquilla.

Of course, these existing obstacles to the traffic in coffee must be considered as merely temporary in character. Nor can it be estimated as yet to what extent they are really active. That they exist is plainly evident from the fact that there is now scarcely any coffee exported from this port where coffee was the chief, and sometimes even the only article, of export.

Swiss Emigration.—In a report dated June 5, 1895, Consul Germain, of Zurich, says:

From the commercial reports for 1894, issued by the Swiss Department of the Interior (division of emigration), I glean the following: The year just closed has been the poorest for Swiss emigration known since the close of 1879, no statistics existing prior to that year. The number of emigrants for the year 1894 foots up 3,849, or 2,328 less than in 1893, and 3,896 less than in 1882. The emigration in 1894 was 3,286 below the average emigration of the last decade, and 9,653 below that of 1883, the year in which the heaviest emigration is recorded since 1879. Of the 1894 emigrants, 2,297 were males and 1,525 females; 885 were married, and the remainder single, widowed, or divorced. The largest number, viz, 1,273, were farming people; clerks, 297; hotel and restaurant keepers, 269; house servants, 255; tailors, 139; shoemakers, 100; and unskilled laborers, 291.

From the following exhibit the great decrease in Swiss emigration becomes apparent: Emigration in the year 1894, 3,849; 1893, 6,117; 1892, 7,835; 1891, 7,516; 1890, 7,712. Swiss emigration averaged about 8,000 annually in the eighties; for instance, in 1889, it was 8,430; 1888, 8,346; 1887, 7,558; 1886, 6,342; 1885, 7,583; 1874, 9,608.

The decline in emigration became perceptible in the autumn of 1893, and is principally attributed to the crisis which then commenced in the United States. The number of emigrants forwarded to transoceanic countries by emigration agencies has also considerably decreased, the number being 3,080 in 1894, against 9,000 in the previous year.

The principal number of emigrants started from Havre, viz, 2,173; then comes Southampton, with 868; Antwerp, with 422; Marseilles, with 125; Genoa, 107, etc.

Of drafts purchased from Swiss emigration agencies, of which a record is obtainable and amounting to 431,962 francs ($86,393), 427,112 francs ($85,423) were made payable in the United States.

Of Swiss emigrants, 3,285, or 85.3 per cent, went to the United States (in 1893 the percentage was 92.2). During the year just closed, a considerable number of Swiss people returned home. Some of them, unable to pay their fare, managed to work their passage across the ocean on cattle and other steamers. This return emigration movement is attributed principally to the prevalence of hard times in the United States.

Swiss Imports by way of France.—In a report dated May 3, 1895, Consul Germain, of Zurich, says:

A publication issued by the Swiss customs anthorities, dated February 28, 1893, referring to the certificates of origin for goods entering Switzerland, states that such certificates accompanying shipments originating from transatlantic countries can be made out by the authorities at the port of arrival in Europe either by the Swiss consul or by any local officer. This privilege, however, does not apply to goods shipped to Switzerland by way of France, as goods of French origin are taxed higher, and in order to avoid unnecessary delays the customs authorities have, in addition, issued the following regulations which must be strictly adhered to in order to have the minimum tariff applied:

(1) Shipments forwarded in direct transit through France must be accompanied by certificates of origin, made out in the country from which they originate, and must be sealed by the French customs officials.

(2) Goods taken and shipped from French bonded warehouses must be accompanied by certificates of origin made out by the French customs officials or by the local Swiss consul.

In the last-named cases, goods must also be sealed and forwarded in bond direct from the French bonded warehouses to Switzerland under the French official custom house seal.

Cereal Imports into Germany.—Consul-General Mason, of Frankfort, reports to the Department May 15, 1894:

The total importations of wheat, oats, barley, and flour into Germany from all countries during the first three months of 1895 in metric tons (2,2046 pounds) and decimal fractions thereof, were:

Country of origin.	Wheat.	Oats.	Barley.	Flour.
Belgium	2,328.8	23 5	327.5	108.8
Bulgaria	646.8	90.1	.....	.....
Denmark	.....	.....	1,527.9	.....
Netherlands	900.1	1,061.5	1,289.2	.....
Norway	.....	64.3	.....	.....
Austria-Hungary	4,824.3	371.8	76,015	3,383.6
Roumania	16,634.7	1,018.5	17,623.1	117.6
Russia	92,698.7	29,117.6	110,146.7	169.2
Sweden	.....	48.2	.....	.....
British India	165.4	.....	.....	.....
Servia	.....	.....	.....	263.4
Argentine Republic	43,263.9	.....	.....	.....
United States	27,819	442.5	131.6	1.015.7
Australia	415	.....	.....	.....
Turkey	.....	118.9	10.1	.....
Total	189,696.7	32,356.9	202,071.11	5,058.3

Quarantine Laws of Jamaica.—Under date of May 22, 1895, Consul Eckford, of Kingston, reports that a section of the quarantine laws of Jamaica, seriously affects vessels arriving with sand ballast, as they are placed in quarantine and are not allowed to *pratique* (enter) until they discharge their sand. The section in question reads as follows:

No vessel arriving at any harbor of the island, having on board any ballast composed wholly or in part of earth, sand, or mud, as defined by section 2 of law 36, of 1873, shall

be allowed, so long as she has any such ballast on board, and for such period as may be in the judgment of the visiting officer necessary, after discharge of same, for the purification of the vessel, and retaining her under observation, to enter such harbor; but the visiting officer shall, so long as such vessel has any such ballast on board and for such period as aforesaid, treat such vessel in all respects as he would treat her if she had on board a person ill of some contagious or infectious disease; provided that if any harbor where the place set apart for the deposit of ballast, under the provisions of section 26 of law 36 of 1873, is within the limits of such harbor, if such place is certified by the quarantine board to be a place where such ballast as aforesaid may be thrown without prejudice to the public health, it shall be lawful for the said visiting officer, under such conditions as he shall see fit, to allow said vessel to proceed to the place aforesaid, although such place may be within the limits of the harbor; provided that, while proceeding to such place, and while lying there, such vessels shall be deemed to be in quarantine to all intents and purposes, save as to the obligation to anchor at the quarantine ground. After the discharge of such ballast as aforesaid, such vessel shall return to the quarantine ground and there undergo such purification and under such observation for such a period as the visiting officer may consider necessary.

Old Letters of Exchange.—Consul-General Bowen, of Barcelona, writes May 9, 1895:

El Fomento del Trabajo Nacional, of Barcelona, has just obtained for its archives a notable collection of letters of exchange. They are seven in number and all are made payable in Barcelona. The oldest one is dated at Mallorca (Palma) in 1392; the second bears the date of 1399; the third came from Pisa in 1399; the next two proceeded from Valencia in 1411 and 1530, respectively, and of the remaining two one was issued at Rosellón, France, in 1445, and the other at Naples in 1535. The first one is considered the oldest bill of exchange in the world. It reads as follows:

"Sir: In conformity with this first letter, you will pay within the next two months, and counting from the date of this, to the woman Sibila, wife of the deceased, Mr. Jaime Castello, XVII libras X sueldos* of Barcelona money, which obtain from the rent of the University of Mallorca on the 11th of December, the payment of which you will require in due time without fail. Dated at Mallorca the 26th day of October, year 1392.

"GUILLEM DE MUNTBRU,
"*Administrator of the Mint.*'

On the back appear these words:

"To the honorable Señor and my Confrere Lorenzo Luques, Exchange Merchant of Barcelona."

Tea Season of Hankow—Native Rebels Executed.—In a report dated April 24, 1895, Consul Child, of Hankow, says:

The tea season at this place will commence on the 3d of May next. The indications are that the crop will be in excess of last season, possibly 100,000 half chests and of superior quality. Several of the Russian firms engaged in the manufacture of brick tea have enlarged their factories to meet the increased demand. The advance in the value of silver will add somewhat to the excitement that generally prevails here during the tea season, as the native merchants are ever ready to avail themselves of the advance in exchange. So far, no ocean steamers have arrived, but several are expected. Most of the tea shipped from here to the United States goes to New York and San Francisco, and the shipments are steadily increas-

*1 libra 20 sueldos; 17 libras=about $9.

ing. The crop from the Au Waha district is now coming in, and the Kiukiang teas will reach here in about ten days.

There is some uneasiness felt in the Chinese city of Hankow at present, and last week an incipient rebellion was nipped in the bud by the arrest of eight malcontents who were prepared to stir up strife. After a strict examination by the authorities, five of them were beheaded and their heads exposed on the city gates as a warning to others. At Kiukiang, there is some feeling among the natives against missionaries, growing out of the purchase of a tract of land in the hills by the latter for a sanitarium, but I do not think it will result in anything serious.

A United States Iron Company in Cuba.—As a matter of commercial interest, writes Consul Hyatt, of Santiago de Cuba, May 25, 1895, I have the honor to inform you that on the 22d instant I gave invoices and bills of health to the British steamship *Massasoit*, loaded with 4,000,000 kilograms (4,408 tons) of iron ore, bound for Philadelphia. This is the "maiden shipment" of the Spanish American Iron Company, which has expended about $3,000,000 American capital in developing their plant here. The plant was ready for operation when the late business depression came, but suspended until the revival of business made a demand for the ore. The company expects to increase operations until their shipments shall equal or exceed that of the Jurugua Iron Company, which is now shipping from 12 to 15 steamers per month, unless the insurrection prevents the employment of a sufficient force of men.

Swine Disease in Germany.—Consul Bartholow, of Mayence, in a report dated May 24, 1895, says:

I have to advise that the *Schweinepest*, which made its appearance in various parts of Germany last year about this time, has again made its appearance in this consular district. The pest, or disease, so far, has affected only the young pigs, principally "suckling" pigs. The symptoms are entire loss of appetite, languor, weakness, and inability to stand, fever, eyelids stuck together, diarrhea, quick respiration, an eruption breaking out all over the body in blue and red spots, forming sores and scabs. The disease generally proves fatal in a very few days, but in some cases lasts from eight to fourteen days.

Old pigs can also be infected, and the disease spread by contact with those deceased, or by the urine or excrement, or by being placed in pens, stables, or places where the pest-stricken ones have been. The authorities claim that the pest was introduced into Germany last year by the importation of swine from Russia, and the breaking out of the same this year is from the effects of the last year's infection. They have taken all precautions possible to prevent its spreading, and having the experience of last year to guide them, they feel confident this year of being able to completely stamp it out.

Tariff Changes in Russia.—Under date of June 11, Consul-General Karel, of St. Petersburg, transmits the following information:

On May 3, an act was confirmed by the Czar by which, according to a protocol of the commercial convention between Russia and Germany, concerning the return, duty free, of

bags in which cereals were exported, the same privilege has been extended to bags in which flour, groats, bran, and other grain products, starch, seeds of siliquous and oil plants, seeds of fodder grass and vegetables, etc., have been exported.

On the 20th of May, the Czar confirmed paragraph 95 of the customs tariff for European commerce, by which 60 copecks in gold (46.3 cents) duty is imposed per pood (36 pounds) on crude cream of tartar, on crude tartar acid lime, and 75 copecks in gold (57.9 cents) on tartar stone, half cleaned (not powdered), in its natural color.

Refined Petroleum in Peru.—In a dispatch from Lima, May 18, 1895, Minister McKenzie says:

I inclose a copy and a translation of report from the Peruvian Foreign Office, relative to the production of refined petroleum; also, the production in Peru of crude oil during 1894.

Exportation of petroleum in the year 1894.

From Talara to—	Refined petroleum.	Combustible oil.	Crude oil.	Residue oil.
	*Litros.**	*Litros.**	*Litros* *	*Litros.**
United States	.....	.....	5,320,000	.....
Callao	354,500	647,240	560,000	140,000
Paita	116,580	156,266	336	.....
San Francisco, Cal	.....	2,501,000	.....	.....
Pisco	36,000	15,166	.....	.....
Tumbes	11,814	.....	.....	.....
Total	518,894	3,319,672	5,880,336	140,000

*1 Litro (liter)=1.0567 quarts.

Sugar Crop of Cuba.—In a report dated June 12, 1895, Consul Barker, of Sagua la Grande, Cuba, says:

The sugar crop of 1894–95 having been marketed, leaves no doubt of a material decrease from the yield of the previous year. This, together with the very low price realized by the planters—for the advance came too late to benefit the producer—leaves the sugar growers of Cuba in a most helpless condition. They now frankly admit that they will not be able to secure loans with which to make the coming crop, which means that not over one-half of the usual acreage in new cane has been planted, with a corresponding neglect in the cleaning of the growing crop. In truth, the condition of the planters of this island is distressing, and the end is not yet, for when it is recalled that fully one-third of the inhabitants depend on the plantations for employment and a living, and that the owners thereof can not obtain money to engage their labor, actual suffering must ensue.

The Wheat Crop in France.—According to the Fermier, says Commercial Agent Angell, of Roubaix, in a report dated June 5, 1895, December sown and spring sown wheat has made some progress, but its condition is inferior to that of ordinary years, and in the short period between now and the month of July it seems impossible that a sufficient improvement can take place to make a crop which will be superior to the average. Hence, France

will have to supply her shortage from other countries, a shortage which will equal several millions of bushels—10,000,000 or more, as I have seen it stated elsewhere. It seems likely, therefore, that France will be a good customer of ours this year, and we will pay her in wheat for the silk, woolen, and other goods which we are buying so largely of her.

Paper for Hosiery Molds.—Consul Meeker, of Bradford, writes to the Department May 30, 1895:

I have received inquiries from persons at Leicester who desire to open up negotiations with United States manufacturers relative to supplying paper to be used for molds or forms in making stockings. It appears that, at present, wooden molds or models are used and prove unsatisfactory and expensive. It is thought that if these could be made from paper, such as is used in producing paper car wheels, it would prove very effective. I would be very glad if United States manufacturers of this material would address me, through the Department of State, in order that I may place the inquirers in correspondence with them.

Silk Industry in Turkey.—Consul Germain, of Zurich, in a report dated May 13, 1895, says:

The culture of silk in Turkey, after years of decline, again shows unmistakable signs of revival. During 1894, 500,000 piasters ($22,000) worth of cocoons were imported, and 40,000,000 piasters ($1,760,000) in value exported. Raw silks show 30,000,000 piasters ($1,320,000) worth of imports, against 103,000,000 piasters ($4,532,000) of exports, and silk piece goods 23,000,000 piasters ($1,012,000) imported to 30,000 piasters ($1,320) exported. The largest increase in the silk culture is credited to the territory traversed by the Anatolian railways. The railroad transported 176,000 kilograms (387,200 pounds) of cocoons and silks in 1891, 288,000 kilograms (633,600 pounds) in 1892, 241,000 kilograms (530,200 pounds) in 1893, and 300,000 kilograms (660,000 pounds) in 1894. The silk exports of Turkey go principally to France, and the imports of silk piece goods and velvets originate mostly in that country.

Exports of Oranges and Lemons from Palermo.—The exportation of oranges and lemons from Palermo to the United States, during the year 1894, says Consul Seymour, of Palermo, in a report dated June 3, 1895, was eight times as much as the exportation to all other foreign countries during the same period.

Consular Reports Reprinted Abroad.—The British Board of Trade Journal for June, 1895, reprints, pp. 637–641, extracts from the report of Consul-General Judd, of Vienna, on the manufacture of tin plate in Austria, published in CONSULAR REPORTS No. 176, May, 1895, pp. 59–65.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of June to other Departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
E. Schneegans, Saigon	Apr. 6, 1895	Rice report	Department of Agriculture.
John Karel, St. Petersburg	May 15, 1895	Cholera in Russia	Marine Hospital Service.
Allen B. Morse, Glasgow	May 22, 1895	Agriculture of Scotland	Department of Agriculture.
L. M. Shaffer, Stratford	May 31, 1895	Agriculture	Do.
Perry Bartholow, Mayence	May 24, 1895	Swine pest	Do.
M. H. Twitchell, Kingston	May 31, 1895	Agriculture	Do.
E. Schneegans, Saigon	Apr. 20, 1895	Rice	Do.
Leon S. Hunt, Palmerston	June 6, 1895	Agriculture	Do.
E. Schneegans, Saigon	May 4, 1895	Rice report	Do.
John Fowler, Ningpo	May 17, 1895	Canned meats	Do.

FOREIGN REPORTS AND PUBLICATIONS.

Expositions and Museums.*—On Saturday, the 11th of May, M. Ribot, President of the Council of Ministers, and M. André Sebon, Minister of Commerce, presided at the inauguration of the very interesting exposition organized at Bordeaux through the efforts of the Philomathic Society, which is conducted with such distinction by the Hon. M. Hausser, engineer in chief of bridges and roads. The exposition is established on the magnificent square des Quinconces, which commands that splendid view of the sweep of the river, which is certainly one of the panoramic marvels of France.

On this ideal site, the Philomathic Society has grouped, with considerable method and art, a harmonious combination of buildings of monumental aspect, wherein are classed in logical order the most interesting products of France.

The exposition is international for wines only. This part of the exposition, as to which we need not speak of the importance given to the name and reputation of Bordeaux in this branch, has been confided to the exclusive management of M. Buhan, vice-president of the Philomathic Society and member of the jury of the Universal Exhibition of 1889. The superior capability and affability of M. Buhan insure the interest and success of the section of wines which will certainly be the one most visited at the exposition.

Since the official inauguration, the work of organization has been completed, and the exposition now presents a very pretty *coup d'oeil* on the whole. The visit which the President of the Republic is to make to the Gironde capital will still further secure the success of the exposition, and, no doubt, M. Faure, with his habitual tact, will be the interpreter of every one in addressing to the Philomathic Society the encomiums merited by its enterprise and the talent of its members for organization.

The commercial museum of Budapest, founded in 1886, with a view to distribute through the East the products of Hungarian industry, established in the beginning of 1892 a branch at Philippopolis. This foundation was coincident with a renewal of effort by Austro-Hungarian commerce to take possession of the Hungarian and Roumanian markets, including voyages of observation organized by commercial societies, and a very active part taken by the governments and the commercial institutions of Austria-Hungary in the exposition of Philippopolis.

The management of the commercial museum at Budapest and of its branches is confided to an anonymous commercial society. The society

*Translated from Revue du Commerce Extérieur of June 1, 1895.

causes only its adherents to profit by the right to exhibit their products in the places dependent on the museum, but, at the same time, the agencies are called on to render general services to Hungarian commerce.

The chiefs of the agencies are appointed by the surveillance committee of the commercial museum. The following are the general instructions:

(1) In the periodical reports addressed to the central management, the chief of agency collects all the information interesting to Hungarian exportations, public adjudications, private matters to be treated, etc.

(2) He collects for the commercial museum of Budapest the samples of native or foreign merchandise which Hungarian industry might profit by producing and importing.

(3) He endeavors to make known and estimate the articles of which the commercial museum of Budapest sends him samples. He points out, on occasions, the causes of inferiority in these articles, and formally states his propositions with a view to placing them in a condition to meet foreign competition.

(4) He furnishes information as to the solvency of merchants, the customs duties, the prices of transportation, etc.

(5) He can conclude business matters on account of the members of the association of the commercial museum.

(6) He is forbidden to negotiate business matters on his own account.

(7) He is particularly careful to introduce relations between the exporters and merchants of his district. He furnishes all useful information to the Hungarian traveling clerks en route at his residence.

(8) The local representation of the commercial museum provides for the settlement of affairs, collections, etc.

(9) The local representative and his agent make tours of inspection to make known Hungarian goods.

The members of the association of the commercial museum who desire to enlist the services of an agency, engage (1) to pay a certain commission on all transactions concluded by the representatives; (2) to pay all expenses of transportation, customs dues, mails, etc.; and (3) to furnish goods strictly in conformity with the samples.

An agency of the Hungarian commercial museum acts at the same time as propagandist for the benefit of Hungarian exportation, and as a representative and commission agent negotiating matters on his own account.

The amount of matters negotiated under this last title in 1894 by the agency at Philippopolis, was 120,000 francs ($23,160), and the budget of the expenses of the agency was 10,000 francs ($1,930).

As regards the importance of the new relations created between this place and Hungary by the action of the commercial museum, it is very difficult to estimate. The museum, without doubt, constitutes for Hungarian commerce an auxiliary not without utility, but it is but little known and little frequented. Every wholesale and commission house of any importance receives a great number of letters and visitors, and the action of the agents of the museum may be considered as very feeble in comparison with the frequent solicitations of Hungarian commercial travelers.

It may be asked if a commercial museum can bring a very appreciable element to such competition as is here entered into. However ingeniously

the operations of the museum may be organized, the results obtained by it, hitherto, have not been very important.

The Chamber of Commerce of Lyons has just returned to the Ministry of the Colonies (service of commercial instruction and colonization) a very complete collection of manufactured articles of foreign origin imported at Tunis and exhibited at Lyons through the agency of the Government of Tunis. This collection, which can be consulted by manufacturers and Parisian exporting merchants, will be placed at the disposition of the interested public at the Palais d'Industrie.

A communication, dated May 11, has been received by the British Foreign Office from the French embassy in London* notifying that, in connection with the thirteenth exhibition, to be held at Bordeaux in September next, the Société Philomathique of the town will organize a congress of technical, industrial, and commercial instruction similar to that held in 1886, at which the English Government was officially represented.

An official announcement has been received of the international exhibition to be held in Montreal, Canada, next year.† The exhibition will open in May and close in October. It will be held on the site of the present exhibition grounds and on adjoining land of the Mount Royal Park, embracing altogether about 120 acres. The exhibition, it is said, will be on a larger scale than any previously undertaken by any country under the British Empire. In its general scope also it will transcend any previous efforts in the same field. The buildings will be 27 in number, and will be devoted to fine arts, manufactures, and liberal arts, electricity, machinery, fisheries, forestry, horticulture, agriculture, etc.

Postal Service between France and Algeria.‡—The question of the maritime postal service between France, Algeria, Tunis, and Morocco, which has occupied the attention of four French Ministers of Commerce, has just entered on a new phase. A third bill, backed by the Ministers of Commerce, Finance, War, and Marine, has been laid before the Chamber. This bill is distinguished from its predecessors by one important innovation. Instead of proposing to put up for tender certain services, Parliament is to be asked to ratify an agreement signed by the director-general of posts and telegraphs and the Compagnie Transatlantique. The outlines of this agreement are already known. In return for an annual subsidy of 1,500,000 francs, which can be increased by not more than 500,000 francs by extra bounties for speed attained, and in return also for the monopoly of all the State transport, the company undertake to run a daily service from Marseilles

*British Board of Trade Journal (June, 1895), p. 627.

†British Board of Trade Journal (June, 1895), p. 628.

‡Translation from Journal des Debats of May 21, published in British Board of Trade Journal for June, 1895, p. 633.

to Algiers at a speed of 15 knots, two services per week to Tunis at a speed of from 13 to 14 knots, and several weekly services of from 10 to 13 knots on the Marseilles-Oran, Marseilles-Philippeville, Oran-Tangiers, and Tunis-Tripoli lines. The total distance covered yearly would be about 194,644 marine leagues; by the contract now in force it amounts to 258,890 leagues. Cette and Port-Vendres in France, and several Algerian ports would no longer be touched at, and the number of services to the provinces of Constantine and Oran would be also reduced.

Foreign Trade of the United Kingdom.—The following statistics showing the imports and exports of the United Kingdom for the month of May, and for the five months ending May 31, 1894 and 1895, are compiled from British official returns. Similar statistics for the months of April, March, February, and January, 1894 and 1895, were printed in CONSULAR REPORTS Nos. 177, 176, 175, and 174, respectively:

Imports and exports during May, 1894 and 1895.

Articles.	1894.	1895.	Increase.	Decrease.
Imports.				
Animals, living (for food)	$5,039,230	$4,027,102		$1,012,128
Articles of food and drink:				
Duty free	60,207,692	57,493,736		2,713,956
Dutiable	7,783,654	8,430,562	$646,908	
Tobacco	987,798	1,292,896	305,098	
Metals	7,318,464	7,654,218	335,754	
Chemicals, dyestuffs, and tanning substances	2,389,206	2,687,492	298,296	
Oils	2,651,960	3,430,530	778,570	
Raw materials for textile manufactures	26,848,155	27,769,558	921,403	
Raw materials for other industries and manufactures	17,723,918	16,893,292		830,626
Manufactured articles	28,897,142	33,341,832	4,444,690	
Miscellaneous articles	6,015,369	5,685,434		329,935
Parcel post	233,568	397,066	163,498	
Total imports	166,096,156	169,103,718	3,007,562	
Exports.				
Animals, living	303,638	421,882	118,244	
Articles of food and drink	3,979,014	3,813,971		165,143
Raw materials	8,343,244	8,297,503		45,741
Articles manufactured and partly manufactured:				
Yarns and textile fabrics	34,872,676	37,277,286	2,404,610	
Metals and manufactures of	11,763,940	11,976,766	212,826	
Machinery and millwork	6,510,708	6,543,397	52,689	
Apparel and personal articles	2,868,994	2,643,698		225,296
Chemicals, chemical products, and medicinal preparations	3,460,213	3,933,674	473,461	
All other manufactures	12,493,455	13,774,673	1,281,218	
Total manufactures	71,969,986	76,149,494	4,179,508	
Parcel post	482,235	582,460	100,225	
Total British products	85,078,117	89,265,310	4,187,193	
Foreign products	23,858,390	25,380,010	1,521,620	
Total exports	108,936,507	114,645,320	5,708,813	

Imports and exports during the five months ending May 31, 1894 and 1895.

Articles.	1894.	1895.	Increase.	Decrease.
Imports.				
Animals, living (for food)	$16,683,568	$14,675,282		$2,008,286
Articles of food and drink:				
Duty free	273,990,442	264,956,657		9,033,785
Dutiable	44,980,033	46,491,926	$1,511,893	
Tobacco	5,004,681	5,534,106	529,425	
Metals	39,949,373	35,072,629		4,876,744
Chemicals, dyestuffs, and chemical preparations	16,343,921	15,720,800		623,121
Oils	14,107,007	15,428,621	1,321,614	
Raw materials for textiles	198,086,806	181,141,212		16,945,594
Raw materials for other industries	72,409,486	68,983,958		3,425,528
Manufactured articles	141,660,452	149,134,793	7,474,341	
Miscellaneous articles	35,488,711	27,345,376		8,143,335
Parcel post	1,566,832	2,211,631	644,799	
Total imports	860,271,312	816,696,991		33,574,321
Exports.				
Animals, living	905,563	1,232,553	326,995	
Articles of food and drink	18,991,080	17,992,135		998,945
Raw materials	40,292,450	33,705,809		6,586,641
Articles manufactured and partly manufactured:				
Yarns and textiles	197,163,760	199,043,308	1,874,448	
Metals and manufactures of	54,890,446	52,394,655		2,495,791
Machinery and millwork	26,828,791	28,326,446	1,497,655	
Apparel and articles of personal use	17,348,750	16,670,916		677,834
Chemicals, chemical products and medicinal preparations	18,019,771	17,028,480		991,291
All other manufactures	56,505,937	60,960,761	4,445,824	
Total manufactures	370,762,455	374,424,566	3,662,111	
Parcel post	1,997,493	2,397,478	399,985	
Total British products	432,949,041	429,752,546		3,196,495
Foreign products	119,002,529	121,482,517	2,479,988	
Total exports	551,951,570	551,235,063		716,507

New Line of Steamers between Trieste and Manchester.*—A report has been received from Mr. John G. Haggard, British consul at Trieste, stating that a regular monthly service of steamships belonging to the Anglo-Hungarian Steam Navigation Company has been initiated between Trieste and Manchester, and great facilities are granted by the Manchester Ship Canal Company in order to develop the trade. Among other advantages to various classes of merchandise, flour from Trieste will enjoy the right of free storage at Manchester for two months after arrival. The head agents are at Fiume, but the subagents at Trieste are Messers. Henderson Bros. (Anchor Line).

Agriculture in German East Africa.†—The Germans, in their East African colonies, are continuing their experiments as to the agricultural capabili-

* British Board of Trade Journal (June, 1895), p. 687.

† British Board of Trade Journal (June, 1895), p. 699.

ties of the country. One of the most prominent establishments, according to the Journal des Economistes, is that which has been directed by Dr. Volkens, at Kilima N'Djaro, since March 31, 1893. Situated in Marangon on the south-southeast slope of the mountain at an altitude of 5,500 meters, it enjoys an excellent climate, white men being able to work at an altitude of from 1,200 to 2,000 meters as well as in their own country. European products, such as potatoes, cauliflower, beet root, beans, pease, and tomatoes flourish in this region; but coffee, cocoa, tobacco, and cotton succeed better at the foot of the mountain as at Ou-Sambara, In this latter region, the plantations of the German East African Company have made rapid progress. The company has just formed another agricultural establishment at Héroué. Coffee succeeds well in all these places, and an agent has been sent to India to embark coolies to assist in the culture.

German Iron Industry and the Russian Market.*—The Moniteur Officiel du Commerce, of April 11, notes that the German newspapers have remarked on the favorable opening afforded to the iron industry of the country by the construction of the Transsiberian line. The rolling stock will comprise 2,000 locomotives, 36,000 goods wagons, and 3,000 passenger carriages, and the German press insist on the importance of home manufacturers endeavoring to obtain contracts for all the material which Russia is unable herself to supply.

* British Board of Trade Journal (June, 1895), p. 698.

CONTENTS.

Page.

I.—Monazite in Foreign Countries..... 341
(Germany, 541—Sweden, 549—Norway, 549—Russia, 550—Brazil, 551.)

II.—Agricultural Taxation in Spain.....*Burke* 551

III.—Trade Opportunities in Valencia.....*McIver* 552

IV.—Labor and Food Prices in Malaga..... } *Burke* 554

V.—Fruit Culture in Malaga..... } *Burke* 564

VI.—The Spanish Hat Trade..... 569

VII.—Spanish Olive Oil..... } *Bowen* 570

VIII.—Barcelona Woven Goods..... 571

IX.—Sliding Scale for South Wales Colliers.....*Howells* 572

X.—Luxemburg Labor Exchange.....*Murphy* 577

XI.—The Labor Bourse of Nantes.....*Savage* 578

XII.—Food Preparation in Europe.....*Chancellor* 579

XIII.—Peruvian Cotton.....*Jastremski* 581

XIV.—Swiss Cotton Industry.....*Germain* 582

XV.—Prices of Goods for the Kongo.....*Mohun* 585

XVI.—The Norwegian Fisheries.....*F. G. Gade* 588

XVII.—Silk Production of the World.....*Mertens* 589

XVIII.—Silk Culture in Southern China.....*Germain* 591

XIX.—Exports Declared for the United States..... 593
(Algeria, 593—Austria-Hungary, 593—Belgium, 595—British India, 597—British West Indies, 598—Canada, 598—Cape Verde Islands, 608—Ceylon, 608—Cuba, 608—Danish West Indies, 609—Denmark, 610—Dutch West Indies, 610—France, 610—Germany, 615—Gibraltar, 622—Greece, 622—Hawaiian Islands, 622—Honduras, 623—Italy, 624—Malta, 628—Mauritius, 628—Mexico, 628—Netherlands, 631—Russia, 633—Spain, 634—Sweden and Norway, 635—Switzerland, 635—Turkish Empire, 637.)

XX.—Bulgarian Industrial Development, Trade, Etc.....*Stephan* 638

XXI.—Brazilian Port Charges and Currency.....*Townes* 649

XXII.—Egypt's Finances in 1895.....*Penfield* 656

XXIII.—Notes (Horse Meat for Germany—American Horses in Western Germany—Consumption Tax in Madagascar—Improvements in Bahia—Flax Production of Ireland—Exports of Staves from Fiume—Treaties of Greece with Russia and Belgium—Tobacco Duty in Venezuela—Free Passage

Page.

for Vessels at Ningpo—Value of China's War Indemnity—Palermo-Messina Railroad Open—Russian Kerosene Industry (correction)—Fall in Price of Petroleum—Consular Reports Transmitted to Other Departments) 660

XXIV.—FOREIGN REPORTS AND PUBLICATIONS (Commerce of France, five months of 1895—British Trade Returns—The French Commercial Mission to China—Administration of French Colonies—Germany's Navy and Her Colonies) 666

REPORTS BY COUNTRIES.

	Page
ALGERIA:	
Exports declared for the United States in	593
AUSTRIA-HUNGARY:	
Exports declared for the United States in	593
Exports of staves from Fiume	662
BELGIUM:	
Exports declared for the United States in	595
Treaty with Greece	663
BRAZIL:	
Improvements in Bahia	662
Monazite in Bahia	551
Monazite in Santos	551
Port charges and currency in	649
BRITISH INDIA:	
Exports declared for the United States in	599
BRITISH WEST INDIES:	
Exports declared for the United States in	598
BULGARIA:	
Industrial development, trade, etc	638
CANADA:	
Exports declared for the United States in	598
CAPE VERDE ISLANDS:	
Exports declared for the United States in	608
CEYLON:	
Exports declared for the United States in	608
CHINA:	
Free passage for vessels at Ningpo	664
Silk culture in southern	591
Value of her war indemnity	664
CUBA:	
Exports declared for the United States in	608
DANISH WEST INDIES:	
Exports declared for the United States in	609
DENMARK:	
Exports declared for the United States in	610
DUTCH WEST INDIES:	
Exports declared for the United States in	610
EGYPT:	
Finances in 1895	656

	Page.
EUROPE:	
Food preparation in	579
FRANCE:	
Administration of French colonies	671
Commerce of, five months of 1895	666
Commercial mission to China	670
Exports declared for the United States in	610
Labor bourse of Nantes	578
GERMANY:	
American horses in	660
Exports declared for the United States in	615
Horse meat for	660
Monazite in Berlin	544
Monazite in Cologne	546
Monazite in Frankfort	541
Monazite in Hamburg	547
Navy and colonies of	671
GIBRALTAR:	
Exports declared for the United States in	622
GREAT BRITAIN:	
Sliding scale for South Wales colliers	572
Trade for first six months of 1895	669
GREECE:	
Exports declared for the United States in	622
Treaties with Russia and Belgium	663
HAWAIIAN ISLANDS:	
Exports declared for the United States in	622
HONDURAS	
Exports declared for the United States in	623
IRELAND:	
Flax production in	662
ITALY:	
Exports declared for the United States in	624
Palermo-Messina Railroad open	664
KONGO FREE STATE:	
Prices of goods for the Kongo	585
LUXEMBURG:	
Fall in price of petroleum in	665
Labor exchange in	577
MADAGASCAR:	
Consumption tax in	661
MALTA:	
Exports declared for the United States in	628
MAURITIUS:	
Exports declared for the United States in	628

MEXICO:
Page.
Exports declared for the United States in..... 628
NETHERLANDS:
Exports declared for the United States in..... 631
NORWAY:
Fisheries of..... 588
Monazite in Bergen..... 549
Monazite in Christiania..... 550
PERU:
Cotton in..... 581
RUSSIA:
Exports declared for the United States in..... 633
Kerosene industry in..... 664
Monazite in..... 550
Treaty with Greece..... 663
SPAIN:
Agricultural taxation in..... 551
Barcelona woven goods..... 571
Exports declared for the United States in..... 634
Fruit culture in Malaga..... 564
Hat trade of..... 569
Labor and food prices in Malaga..... 554
Olive oil in..... 570
Trade opportunities in Valencia..... 552
SWEDEN:
Monazite in Gothenberg..... 549
Monazite in Stockholm..... 549
SWEDEN AND NORWAY:
Exports declared for the United States in..... 635
SWITZERLAND:
Cotton industry in..... 582
Exports declared for the United States in..... 635
TURKISH EMPIRE:
Exports declared for the United States in..... 637
VENEZUELA:
Tobacco duty in..... 663
WORLD:
Silk production of..... 589

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	do	Dollar	1.00	
Chile‡	Gold and silver	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba	do	do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6⅔	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands‡	Gold and silver	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—$2 ($2.02,7).
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

‡ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6		
China	Silver	Haikwan tael	1.61	1.61				
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).			4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7		
	Silver						.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2		
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso				.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen			.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1892.				1893.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Austria-Hungary *	Gold crown	.....	.....	.....	$0.20,3	.....	.....	.....	.....
	Silver florin	$0.34,1	$0.32,8	$0.32	.....	.....	.....	.....	.....
Bolivia	Silver boliviano.	.69,1	.66,5	.64,9	.61,6	$0.61,3	$0.61	$0.60,4	$0.53,1
Central America	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
China†	Shanghai tael	1.02,1	.98,2	.95,8	.91	.90,6	.90,1	.89,2	.78,4
	Haikwan tael	1.13,7	1.09,3	1.06,7	1.01,3	1.01	1.00,4	.99,4	.87,4
Colombia	Silver peso	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Ecuador	do	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
India	Silver rupee	.32,8	.31,6	.30,8	.29,3	.29,2	.29	.28,7	.25,2
Japan‡	Silver yen	.74,5	.71,6	.69,9	.66,4	.66,1	.65,8	.65,1	.57,3
Mexico	Silver dollar	.75	.72,2	.70,4	.66,9	.66,6	.66,2	.65,6	.57,7
Peru	Silver sol	.69,1	.66,5	.64,9	.61,6	.61,3	.61	.60,4	.53,1
Russia‖	Silver ruble	.55,3	.53,1	.51,9	.49,2	.49,1	.48,8	.48,3	.42,5
Tripoli	Silver mahbub	.62,3	.60	.58,5	.55,5	.55,3	.55	.54,5	.47,9
Venezuela ‖	Silver bolivar	.13,8	.13,3	.13	.12,3	.....	.....	.....	.....

Countries.	Monetary unit.	1894.				1895.		
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.
Bolivia	Silver boliviano	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1	$0.48,6
Central America	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
China†	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67.3	.65,2	.71,8
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6	.80
	Tien-Tsin tael	.....	.....	.....	.72,7	.71,4	.69,2	.76,1
	Chefoo tael	.....	.....	.....	.71,7	.70,4	.68,3	.75,1
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21,0	.23,1
Japan‡	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6	.52,4
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9	.52,8
Persia	Silver kran	.....	.....	.....	.....	.....	.....	.48,9
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6
Russia‖	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3	.38,9
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8	.43,8

* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‖ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

‖ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110 24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	113⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

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MONAZITE IN FOREIGN COUNTRIES.

In compliance with a request from the Manufacturers' Record, of Baltimore, Md., the Department of State instructed consular officers to report upon the uses of monazite—a mineral recently found in considerable quantities in North Carolina—in their districts, and the market therefor. The first report received, that of Consul-General Mason, of Frankfort, Germany, was published in CONSULAR REPORTS No. 176 (May, 1895), pp. 170–171. The consuls at Birmingham and Sheffield, England, reported that monazite was not used in their districts. Since then, the following reports have been received.

GERMANY.

FRANKFORT.

Referring to my report on the uses of monazite in Europe, submitted in compliance with instructions of March 7th, I have the honor to transmit herewith a further report on the same subject, which will be found to contain much more precise and practical information than the preceding one, especially concerning the best methods of preparing American monazite for the European market.

When the subject was first presented to me, it was entirely new, and for the reason, mainly, that the principal purpose for which monazite is used in Germany is a secret and carefully concealed process, the investigation proved unusually difficult. Since then, I have continued the inquiry and prepared the present report.

Monazite is a natural phosphate of cerium and lanthanium, and usually contains oxides of one or more of the other rare earths, notably didymium and thorium. It ranges in color from yellow to brown and yellowish-green, and occurs in small monoclinic crystals which vary in specific gravity from 4.9 to 5.3. European authorities do not mention thorium as one of the constituents of monazite, so that it may be inferred that whatever traces of that element may have been found in the earlier samples of this mineral were considered, like silica, etc., as impurities.

For a long time, monazite was used industrially only as a raw material for the production of cerium lanthanium, and their derivates, but in recent years the manufacture of mantles for the Auer-Welsbach, the Stobwasser, and other similar incandescent gas-burners, has created a new and important demand for thoria, or oxide of thorium (ThO_2), which is of all metallic oxides one of the most infusible and refractory to heat.

American monazite is found in a district which comprises portions of Cleveland, McDowell, Burke, and Rutherford Counties, in North Carolina, and extends across the State line and covers a nearly equal area in South Carolina. Throughout this region, it is found in the sand and gravel which form the bed of small streams, the richest deposits being usually found near the headwaters, among the detritus of crystalline gneiss and schists, where it is associated with feldspar, mica, magnetite, garnet, zircon, etc. In such localities, monazite is obtained in two commercial forms, either pure as crystals, which are of all sizes up to that of grains of wheat or larger, and as monazite sand, in which minute crystals of mineral are mixed with a greater or less proportion of ordinary sand and other worthless material.

The larger monazite crystals are gathered by hand, principally by laboring people living in the district above specified, who employ in this manner their leisure time selling or trading their gleanings to neighboring grocers and storekeepers, who, in turn, sell them to the agents of a firm in New York, which has hitherto practically monopolized the trade in this material, and, therefore, controlled its price. Monazite sand is obtained by washing the sand and gravel of the stream beds in wooden sluice boxes, as is done with gold in placer mining. The gravel is shoveled into the box, through which flows a current of water; it is stirred with a fork or openwork shovel, so that the water carries away the lighter sand and pebbles, leaving the heavier monazite, generally mixed with particles of iron, garnets, etc., in the bottom of the sluice. It is then taken out, dried, and if found to contain particles of magnetite—which, from their nearly identical specific gravity, are very difficult to separate by washing—they are removed by treatment with a magnet. The grains of titaniferous iron ore, which are also generally present, are insensible to the magnet and can not be thus separated. When purified, as far as is readily practicable by the methods now employed, the marketable sand contains from 50 to 65 per cent of monazite particles, and has been sold during the past two years at the place

of production for from 5 to 7 cents per pound. The prices of pure monazite crystals are relatively higher, and range from 10 to 12 cents per pound.

From a somewhat careful examination of the subject, it would appear that, by proper management, the exports of American monazite to Germany may be considerably increased. Several new incandescent gas-burners, rivals to the Auer-Welsbach, have been recently invented and placed upon the market at reduced prices. The use of such burners is extending rapidly, and they all include as an essential feature the incombustible hood or mantle, for which the best known material is oxide of thorium.

Since the use of monazite as a material for the production of cerium and lanthanium and their derivates is, and will probably always remain, limited, it follows that the value of American monazite in the German market depends primarily upon the percentage of thoria which it may contain. The highest grades have thus far been received from Burke and Cleveland Counties, in North Carolina, and have yielded from 4 to 6.5 per cent of thoria, but the average monazite sands run from 2.5 to 3.5 per cent, with which degree of richness German consumers are generally satisfied, provided the monazite sand is reasonably clean and free from iron and such other impurities as will interfere with the chemical reduction of the material and elimination of the thoria. An essential improvement would seem to be some sort of annealing process by which the nonmagnetic particles of iron ore in the sand can be rendered susceptible to the influence of the magnet and thereby removed.

The only complaint against American monazite sand is that it is sometimes not properly cleaned, and since the present demand has stimulated unusually liberal consignments of that material from Norway and Brazil, the market is, for the moment, somewhat conjested. For pure monazite crystals, there is a more ready sale, and great care should be taken that all samples and consignments of American monazite sand sent to Germany shall be cleaned and purified to the utmost degree that may be practicable with present facilities. But it is an economic absurdity that any raw material shall be permanently shipped from the interior to the seaboard and then transported four or five thousand miles, in order that from 2 to 4 per cent of its bulk may be utilized.

The monazite industry of the Carolinas will never be properly organized until there is established there, at the place of production, a laboratory which, by practicing the most improved and economical process, shall refine the whole monazite output of the district, extract the precious oxide of thorium, and control the market for that product in Europe. There has been recently invented by a mining chemist and engineer of great experience at Wiesbaden a new process for this purpose, which appears to be a substantial improvement over any of the methods hitherto employed.

Any samples of American monazite which may be sent to this consulate will be submitted to trial by this process, and the senders of such samples

will be informed of the results and placed in direct correspondence with the inventor and with other German consumers of thoria and monazite.

FRANK H. MASON,
Consul-General.

FRANKFORT, *June 6, 1895.*

BERLIN.

The mineral called monazite is at present in greater demand in Berlin than the supply can furnish. It was formerly obtained chiefly from Scandinavia, but the beds there appear to be exhausted. Less is known about its coming from Russia. One merchant informs me that it is also obtained from Africa. But the bulk of the mineral, at present, comes from the United States, and, for the most part, in the form of sand.

The demand for monazite is almost, if not exclusively, founded on the heavy sales of an incandescent lamp, or "stocking," which is placed over gas jets and has the effect of turning the gas flame into a brilliant, glowing, white or colored light—a steady light—which is held by many to be superior to that of electricity or ordinary gas.

Monazite is especially used at two chemical works in the German Empire, namely, the Merck works, at Darmstadt, and the De Haene works, at Hanover. The largest consumption, however, is in Austria, at Vienna, where Ritter Auer von Welsbach has established a great factory with branches in other capital cities (that in Berlin is in the Molken Markt). Although Ritter Auer von Welsbach obtained patents in the German Empire on the incandescent "stocking" lamp, they have been infringed on, and, at present, it is claimed that he will lose his suits at law.

Auer von Welsbach was not the originator of the incandescent lamp, if I am to believe what experts in Berlin say. According to them, the idea was original with an American, William Lake, who patented it for one year in England, but did not keep his patent alive. Auer von Welsbach is said to have taken Lake's idea and even patented the same in the United States.

The exact method of fabricating the "stocking" incandescent lamp is, of course, a secret, but, in a general way, this is the procedure: The "stocking" is woven of cotton in loose texture and the end sewed up with asbestos thread. It is then plunged in a liquid, the chief ingredients of which are obtained from monazite. The stocking is then drawn over a metal stand somewhat in the shape of a thick young stalk of asparagus, and, after drying gradually, burned out with a Bunsen burner, beginning at the top. After this burning, there remains a white skeleton formed of the ashes of the cotton "stocking" and the minerals in the above-mentioned liquid. This forms the incandescent hood which gives to the gas flame the brilliant light desired. According to the way in which the ingredients are mingled, the color of the light is either dazzling white or else of different colors.

Some nine minerals are used in the liquid mentioned, but the chief is thorium, obtained from thorite, which is one of the chief ingredients of monazite. On the proportion of thorite in monazite, depends the value of the latter in the market. Other ingredients are zircon, lanthanium, didymium, cerium, erbium, and yttrium. Not only the proportions of these ingredients, but the sequence in which they follow affects the resulting liquid in which the "stockings" or hoods are steeped.

The sales of incandescent hood lights have been so great that fabulous dividends have been paid by certain *Gasglühlicht Gesellschaften* (gas-glowing light companies). The wholesale price for lots of one hundred and more given me by Mr. Rudolphschlag, of Magazin Strasse 14, is 3.50 marks (83.3 cents) for each lamp. Other firms and persons interested in the sale are Stobwasser Aktien Gesellschaft, factory 156 Reichenbergerstrasse; Treudel, 1 Wallstrasse; and C. Kramme, Gitschinerstrasse. In Dresden, there is a German-American "Incandescent Company," with an office at 7 Weber Gasse.

To give some idea of the prices paid for ingredients of the liquid for hoods or "stockings," I will quote the price list of Herr Rudolph Schlag, per kilogram (2.2046 pounds):

Description.	Price.	
	Marks.	
Cerium	85	$20.23
Didymium	650	154.70
Erbium	600	142.80
Lanthanium	800	190.40
Thorium	1,800	428.40
Clean	1,000 to 1,200	$238.00 to 285.60
Brilliant	3,200	761.60
Yttrium	750	178.50
Zircon	105	24.99

These prices would seem to corroborate the statements made to me that the supply just now does not meet the demand, and that a move on the part of owners of monazite and thorite mines in the United States might be financially successful, so far as Berlin is concerned. That move should include the selection here or the sending here of a responsible German-speaking American who understands the ways of German business men.

CHARLES DE KAY,
Consul-General.

BERLIN, *April 25, 1895.*

Supplementary to my report of April 25th in regard to monazite and the incandescent lamp, I now have the honor to forward (1) a sample of the undipped "stocking" or hood, and the asbestos thread used for sewing up the

end thereof; (2) a work by Wilhelm Gentsch, of the Imperial Patent Office, called Gasglühlicht (one hundred and thirty pages, sixty-eight cuts in text), which has appeared since my report.*

I may add that any owners of mines containing monazite who write to me, will be put in correspondence with individuals and firms who are likely to call liberally on them for the ore.

CHARLES DE KAY,
Consul-General.

BERLIN, *May 6, 1895.*

COLOGNE.

The value of monazite sand has varied so greatly that, up till now, it has been impossible to fix anything like an average price. Its value depends on its percentage of certain rare earths, especially thorium. A smaller amount than one per cent of thorium will not pay for working; besides, no chemical method has yet been adopted for extracting the thorium from such poor ores.

In those factories in which monazite sand is worked, the strictest secrecy is observed.

In the beginning, the analyses which frequently showed very high amounts of thorium were incorrect, because the chemists had not been able to separate the different rare earths from each other, and they put down the whole as thorium. According to recent analyses by R. J. Gray, of New York, the highest amount of oxide of thorium in the Brazilian monazite sand was from 1.2 to 7.6 per cent; in sand from Quebec, 1.1 per cent; in sand from Connecticut, 1.4 per cent; and in sand from North and South Carolina, only 0.23, 0.32 to 0.8 per cent.

As it requires expensive technical establishments for working monazite sand, it does not pay to manipulate sand containing only a small percentage of thorium. Therefore, only such ores as contain large proportions of thorium are eagerly sought. As long as the chief value depends on the thorium contained in monazite sand, which has proved—*i. e.*, the thorium—to be indispensable in the preparation of the solution for impregnating the wick for incandescent gaslights, as invented by Auer Welsbach, the preference will be given to the Brazilian monazite sand.

In preparing the monazite sand found in the United States, great care should be taken to separate all valueless substances, such as magnetic iron, quartz, etc., so as to obtain a higher grade. By expert examination of the different qualities of sand, these valueless substances could easily be determined and methods found for removing them before the monazite is put on the market.

Owing to the active demand last winter for sand containing thorium, there apparently was more attention given to placing a large quantity on the

*Filed in Bureau of Statistics, Department of State.

market than to good quality, so that partly valueless sand was offered, which caused the quality from the United States to be somewhat discredited.

In summer, when the incandescent lights are not much in use, there is naturally a corresponding falling off in the demand for monazite sand. At present the supply exceeds the demand, and I am informed that large quantities lie in Hamburg and other seaports awaiting buyers. The prices, therefore, will be depressed, and, at present, those offered for monazite sand from the United States are scarcely one-third of the prices which were willingly paid some six months ago.

Smaller establishments work more advantageously Norwegian ores, which are dearer, but give better and surer profits. Thorium ores with a minimum guaranty of 20 per cent of thorium are preferred. The price is fixed according to the percentage of thorium per kilogram (2.2046 pounds), which is from 6 to 8 marks ($1.43 to $1.90) per kilogram of each per cent.

It is recommended that the monazite sand from the United States be placed on the market in as pure a state and as high a grade as possible. From what I have learned, there evidently has been a lot of worthless stuff sent to Germany from the United States, so that the confidence in the quality of the American monazite sand has been gradually depreciating.

Dr. F. Krantz, of Bonn, Germany, is a large purchaser of monazite.

WM. D. WAMER,
Consul.

COLOGNE, *June 1, 1895.*

HAMBURG.

Monazite, which, not very long ago, was probably known only to chemists, and was used in small quantities in their laboratories, has lately become known to the commercial world through the discovery that it can be employed to great advantage in the manufacture of the mantles of a new species of lamp, which, so far as Germany is concerned, is principally offered for sale by the Gasglühlicht Actien Gesellschaft (patent Auer) and the Stobwasser Actien Gesellschaft, both of Berlin, and companies organized by Treudel, Beuse, Kramme, and others.

Thorium is the metal which is used in the manufacture of the above-mentioned mantles. The value of the monazite therefore, depends upon the quality of thorium it contains.

The chief feature of the new lamp referred to is its so-called mantle, which is constructed of loosely woven cotton, impregnated with a fluid, the composition of which is the invention and secret of the Austrian chemist Auer von Welsbach. He is the incorporator of the Austrian Gasglühlicht Gesellschaft, near Vienna, which was the original manufacturer of the aforesaid fluid, and the first concern to introduce the new lamp. The patents for the same in the various countries of the world were sold to stock companies, the one in Germany being the Gasglühlicht Gesellschaft, of Berlin. These

corporations, all of which obtain the fluid for the mantles from the Vienna factory, very soon did a thriving business, and the consequence was that competition was not long in rising. The mother company, near Vienna, however, contending that these competitors had infringed upon its patent rights, began suit against them, and, as I have been informed, these suits have been decided in favor of the plaintiff in Great Britain and France. In Germany, the suits are still pending. Should the decisions of the courts here turn out favorably for the Auer company, the same would virtually become the sole consumer of thorium, and, therefore, the only purchaser of monazite and monazite sand. In such an event, the company could dictate prices, and much lower quotations for monazite would have to be looked for.

Soon after the introduction of these new lamps, the demand for materials containing thorium increased to a considerable extent, first among which were the Norwegian thorite and orangite ores containing from 40 to 62 per cent of thorium (ThO_2).

At first, the prices paid for pure thorium were as high as $240 per pound, but, as the output of the Norwegian mines increased, the prices receded to $180, $144, $72, $48, and $36 per pound—only now and then showing an improvement, as the output was less plentiful.

At first, the manufacturers imported their supply of raw material solely from Norway, but afterwards Brazil, Canada, and the United States, and latterly also Russia, appeared in the market with monazite and monazite sand, which articles were, on account of the small amount of thorium they contained (2 to 5 per cent) offered at unreasonably low prices. While the first shipments of Brazilian monazite sand, containing about 3 to 3½ per cent of thorium, brought £85 per ton ($413.61 per 2,040 pounds), c. i. f. Hamburg, the prices for monazite and monazite sand, on account of extensive shipments from all quarters, have, in the course of this winter, declined to such an extent that at first £75 ($364.95), then £50 ($244.30) and £30 ($145.98), and, finally, £15 ($73) per ton, c. i. f. Hamburg, were paid.

The reason why the price of monazite is so much lower than that of the Norwegian thorium ores, is that the extraction of the thorium from monazite is much more expensive than from thorite, monazite showing a combination of thorium with phosphoric acid and silicates, which requires a most expensive manipulation by the manufacturers. This is also demonstrated by the fact that analyses of Norwegian thorite cost about $12, while those of monazite and monazite sand cost about $17.85.

Owing to the comparative newness of the article and the incomplete and unreliable statistical returns thus far obtainable, I am unable to state what quantities of monazite have been imported into this market.

It is difficult to say how the market for monazite will go, particularly as the supply has thus far been considerably greater than the demand. If this condition continues, and further consignments are made without special orders for the same, large stocks will be created, which, in order to avoid cost of storage, will have to be sacrificed far below their cost. Besides, not every

chemist nor every laboratory is able to make thorium analyses, so that, in this respect, shippers also run considerable risk.

The proper way for the owners of American monazite pits to gain a foothold in the market here would appear to be the sending to the Hamburg importers of fair samples of monazite and monazite sand, say of perhaps one-half to one pound in weight, and, if possible, accompanied by the analysis of a reliable American chemist.

As far as I have been able to ascertain, the Hamburg dealers in monazite and monazite sand are G. von der Busche, Robertson & Beuse, F. D. Bieber & Söhne, importers, and Ed. Zietz, commission merchant. To the kindness of the two latter firms, I am indebted for much of the information contained in this report.

W. HENRY ROBERTSON,

HAMBURG, *April 20, 1895.* *Consul.*

SWEDEN.

STOCKHOLM.

So far as I have been able to learn, there is no production of monazite in this district.

THOS. B. O'NEIL,

STOCKHOLM, *June 14, 1895.* *Consul.*

GOTHENBERG.

After applying to the minerological authorities here for information, I have the honor to report that neither monazite nor other minerals usually containing thorium have been discovered in any part of Sweden, and the only place on the Scandinavian peninsula where thorium is found is the southern part of Norway, where, according to the best information obtainable here, the annual output is about 500 kilograms (1,102 pounds).

The price per pound and the percentage of thorium contained in the mineral is almost impossible to obtain unless by communication with the authorities in charge of the mines.

OTTO H. BOYESEN,

GOTHENBERG, *May 22, 1895.* *Consul.*

NORWAY.

BERGEN.

Replying to the Department's dispatch, I have the honor to state that there is no production of monazite in the consular district of Bergen.

J. C. ISDAHL, JR.,

BERGEN, *May 14, 1895.* *Vice-Consul.*

CHRISTIANIA.

Monazite is found in various feldspar quarries in southern Norway, though in very small quantities. The extent of the deposits I have not succeeded in finding out. Monazite is, according to information obtained from experts, only worked incidentally and not commercially. It is worked in this country only on a small scale.

No particular method of mining monazite is employed here. It is only picked by miners while sorting feldspar at the mines. The annual output is of no importance. It is believed that it will this year reach one ton.

I have been informed that the price fluctuates according to the condition of the thorium market.

Monazite is shipped to several European countries, and especially to Germany.

Thorium is not contained in the sand in Norway, but in the pure mineral. The percentage of thorium is from 5 to 13. It is sold in pieces, and not as sand.

GERH. GADE,
Consul.

CHRISTIANIA, *July 2, 1895.*

RUSSIA.*

ODESSA.

Up to the present time, within the limits of European Russia, there is not known even a single place where monazite is to be found in workable quantities. This mineral is generally considered to be very rare in Russia, and is principally found in the Ilmen Mountains (southern Ural) in separate small crystals measuring from 0.5 of one centimeter to 3 centimeters, which are embodied in granite, from which they can not be extracted or separated with any practical views. Much more rarely, and quite accidentally, monazite is found in some gold fields along the River Sanarka, in the district of the Orenburg Cossacks, and, under the same conditions, it is occasionally found as a great curiosity in some of the gold fields of Eastern Siberia. Monazite is not being worked commercially within the limits of the Russian Empire.

THOS. E. HEENAN,
Consul.

ODESSA, *June 8, 1895.*

* A report, dated June 27, received from the consul-general at St. Petersburg, gives information similar to that given by Consul Heenan.

BRAZIL.*

BAHIA.

Following is all the reliable information I have been able to obtain regarding monazite in this consular district:

The locality of deposits is in the southern part of this State, on the coast, near latitude 17 degrees south. The deposits are found in a sand beach of enormous extent. Vessels of 400 to 500 tons burden and light draft have carried large quantities. The mineral is shoveled up as ordinary sand from the beach.

It is impossible to ascertain the amount shipped. Until recently, it was free to the world, and ships only paid laborers for loading, which cost about $2.50 per ton on board ship. I can not learn the present price. The mineral is shipped to England.

The percentage of thorium contained in the sand, I am told, is very high. A gentleman who showed me a sample of the sand which he analyzed, said it contained about 80 per cent of monazite. I am told that this Government has recently taken steps to protect the industry.

There is no regular communication between this city and the locality of these deposits, and the transmission of letters is dependent on small sailing craft, taking from one to two months.

R. P. McDANIEL,

BAHIA, *June 7, 1895.* *Consul.*

SANTOS.

Consul Smith writes from Santos June 25, 1895:

A letter to me from Mr. Orville Derby, chief of the geographical and geological commission of this State—São Paulo—says although monazite is known at various points in the States of São Paulo, Paranha and Santa Catharina, he is not aware that any attempt has ever been made to explore the deposits industrially, nor does he know of any points where such attempts would be likely to be successful. The production, he adds, is practically nil. All the samples he has thus far seen have been in microscopic quantities, and probably no examination for thorium has ever been made.

AGRICULTURAL TAXATION IN SPAIN.

Following are some of the taxes (octroi) that confront the farmer who brings produce into Malaga for sale:

Olive oil	per kilogram (2.2046 pounds)...	$0.05
Raisins	per 25 pounds...	.02
Lemons	per 1,000...	.05
Almonds:		
In the shell	per 100 kilograms (220.46 pounds)...	.20
Shelled	do.....	.53

*The consul at Pernambuco reports that monazite is neither "mined in nor shipped from this district."

Flour and wheat	per 100 kilograms (220.46 pounds)	$0.46
Fruit in general	do	.30
Wine	per litre (1.067 quarts)	.05
Turkeys	each	.20
Meat, except pork	per kilogram (2.2046 pounds)	.05

Annual taxes paid by farmers in the province of Malaga.

Description.	Tax.	Description.	Tax.
Live animals:		Land:	
Geldings, each	$4.00	Vineyards—	
Mares, do	5.00	For wine:	
Mules, do	5.00	First class, per fanega*	$6.00
Donkeys, do	1.00	Second class, do	5.00
Ponies, do	2.00	Third class, do	3.25
Oxen, full grown, do	2.00	Mountain, do	1.65
Young oxen, do	1.00	Inferior mountain tops, do	1.15
Sheep, do	.30	For raisins:	
Hogs, do	1.50	First class, do	24.00
Goats, do	.40	Second class, do	15.85
Fruit trees:		Third class, do	11.40
Orange or lemon trees—		Mountain, do	5.49
First class, do	1.10	Irrigated, for any purpose—	
Second class, do	.55	First class, do	25.35
Third class, do	.40	Second class, do	17.85
Olive trees—		Third class, do	10.20
First class, do	.50	Not irrigated—	
Second class, do	.35	First class, do	7.34
Third class, do	.20	Second class, do	5.29
Almond trees—		Third class, do	3.25
First class, do	.55		
Second class, do	.40		
Third class, do	.30		

*3½ to 4 acres.

It is because these taxes bear so heavily upon the farmer that he complains, declaring he is unable to meet his obligations and support himself and family respectably and comfortably; and, further, that his condition, instead of improving, is growing worse from year to year. This accounts for so many farmers, who constitute the bone and sinew of the country, emigrating to Brazil and the Argentine Republic in the hope of bettering their condition in foreign lands.

DAVID N. BURKE,
Consul.

MALAGA, *March 15, 1895.*

TRADE OPPORTUNITIES IN VALENCIA.

Valencia, the capital of the ancient kingdom of the same name, with a population of some 180,000 inhabitants (according to the last census more nearly approaching 200,000), the headquarters of the civil, military, and ecclesiastical authorities, is fast increasing in population and area. Radical and vast municipal improvements are now being carried out in this ancient city. The "Grao," or port of Valencia, consisting only of stores and a sea-

side population, is about 3 miles distant from the city proper, and there the mercantile community resides and transacts its business.

In my report, dated February 8 last, to the Department of Agriculture (a copy of which I had the honor to forward to the Department of State on the 7th of March ultimo), I stated that the entry of almost all foreign produce and manufactures had been prohibited by law at second-class ports, such as Denia (the consulate), by a late royal decree regulating customs entries, and that, therefore, by the establishment of a consulate at Valencia, under the control of a consul with salary fixed by law, encouragement would be given to American exporters to introduce their goods, making of Valencia a center for distribution throughout the three provinces of Valencia, Alicante, and Castellon, in which trade with the United States is at present almost absolutely unknown, owing chiefly to the lack of direct communication. Under existing circumstances, there has been no inducement for American producers or manufacturers to push forward their goods at Valencia, although the city is surrounded by a thickly populated country, comprising many important towns and villages devoted to agriculture.

* * * * * * *

Importations into Denia from the United States, as already pointed out, are quite out of the question, and I must keep to the matter of exportations, namely almonds, palm-leaf hats, onions, and raisins. The two first named are of such small importance as not to be worthy of notice; the third—onions—may be considered as stationary, for only early shipments give any inducement to growers or speculators to ship this article, later shipments generally giving disappointing results. With regard to raisins, the fast-growing consumption in the United States of this article received its first check in the year 1890 by the passing of the McKinley tariff. Although later legislation reduced the duty, it has never recovered from the shock, owing to the wonderful progress made by California in producing a similar raisin. The California raisin is surely ousting the Valencia raisin (formerly so highly esteemed) from the American markets, with an ease that Spanish packers never dreamed of.

The raisin trade at this port, in a general way, only lasts for about four months of the year, in the autumn, or, say from the middle of August to the middle of November, in which short period the crops of the surrounding country are harvested, cured, packed, and exported.

The only industry in Denia appears in the shape of two sawmills for cutting wood to make boxes for raisins and oranges, and which employ a limited number of hands all the year round. With this exception, there is no trade of any sort for the remaining eight months, the laboring classes having to find employment in the cultivation of the land, and in fishing.

In a communication dated July 5, 1894, I had the honor of indorsing a petition, signed by the most important and wealthy merchants and landowners at Gandia, a town situated 20 miles north of Denia, which petition was, I believe, forwarded to the Department a few days previous, requesting

the establishment of a consular agency at that port. Gandia is a city of 7,500 inhabitants, and is, commercially and agriculturally, more important than Denia. It is surrounded by a thickly populated district, comprising thirty-eight villages devoted to the raising of fruit and vegetables, which are exported in large quantities to other European countries, as well as to the United States, the whole district, including the town itself, having a population of some 70,000 inhabitants. A fair proportion of the American trade in raisins is handled by merchants resident in Gandia, who sometimes ship their goods at this port (Denia), and at others by vessels touching at Gandia. Many and grievous complaints have been made by the Gandia shippers, from time to time, who are compelled to come personally to Denia for the verification of their invoices, causing them much annoyance and loss of time and money, on account of the absurd railway communication, as explained in my report above mentioned, by which they lose an entire day from their business occupations.

The town of Gandia has representatives of the most important commercial nations, and, moreover, is in close proximity to the only manufacturing town in the Kingdom—Alcoy—which has a population of some 65,000 inhabitants, and is situated about 30 miles distant from the coast and in direct railroad communication therewith. There are many important manufactories established at Alcoy, the motive power being chiefly water, where paper, matches, woolen, and cotton goods are made, the raw material being imported indirectly. I think a market for American cotton could be easily opened up there by a little enterprise either at Valencia or Gandia.

HENRY R. D. McIVER,

DENIA, *April 8, 1895.* *Consul.*

LABOR AND FOOD PRICES IN MALAGA.

POPULATION.

The population of the province of Malaga, according to the latest official reports, is 595,984, of which 227,997 are males and 232,987 females. The same report gives the city of Malaga 135,000, of which 64,908 are males and 70,092 females. It is estimated that seven-eighths of the people of the province and two-thirds of the people of the city belong to the laboring class.

The province comprises twenty-two towns, five cities, eighty villages, and two hamlets.

COST OF LIVING.

The following table shows that the actual necessaries of life are very dear. This is chiefly due to heavy Government taxes on property, internal production, consumption, and imports. For these reasons, and because of the low wages earned and the high prices which they are forced to pay for all necessaries of life, the laboring classes are forced to live in the most economical manner.

Prices of the necessaries of life in Malaga.

Description.	Price.	
	Minimum.	Maximum.
Vegetables:		
Onions.....per pound...	$0.01	$0.02
Potatoes.....do.....	.03	.04
Asparagus.....per bunch...	.02	.04
Pease.....per pound...	.02	.05
Tomatoes.....do.....	.01	.20
Carrots.....per bunch...	.01	.02
Turnips.....do.....	.01	.02
Lettuce.....three...	.01	.02
Radishes.....do.....	.01	.....
Beans.....per pound...	.01	.03
Cauliflowers.....each...	.04	.10
French beans.....per pound...	.02	.05
Cabbages.....each...	.03	.05
Celery.....three...	.01	.02
Fruits:		
Oranges.....per dozen...	.03	.12
Lemons.....do.....	.03	.14
Pears.....per pound...	.07	.08
Apples.....do.....	.02	.10
Grapes.....do.....	.01	.10
Watermelons.....each...	.02	.10
Cherries.....per pound...	.02	.03
Apricots.....do.....	.02	.04
Peaches.....do.....	.02	.04
Mandarins.....per dozen...	.10	.12
Custard apples.....do.....	.50	.80
Bananas.....do.....	.10	.12
Plums.....per pound...	.01	.04
Greengages.....do.....	.02	.05
Groceries:		
Rice.....per pound...	.03	.06
Bread.....per kilogram...	.08	.10
Olive oil.....per pound...	.10	.14
Vinegar.....per bottle...	.03	.05
Vermicelli.....per pound...	.06	.08
Macaroni.....do.....	.10	.12
Flour.....do.....	.08	.12
Wheat.....do.....	.06	.10
Pepper.....do.....	.40	.50
Capsicum.....do.....	.30	.40
Chocolate.....do.....	.20	1.20
Cocoa.....per tin...	.20	.40
Sugar.....per pound...	.10	.....
Brown.....do.....	.07	.08
Lump.....do.....	.12	.13
Tea.....do.....	.60	1.60
Coffee.....do.....	.40	.80
Salt.....do.....	.01	.02
Butter.....do.....	.30	.55
Nutmegs.....each...	.04	.05
Saffron.....per ounce...	1.00	1.20
Cumin.....per pound...	.50	.60
Canary seed.....do.....	.20	.30
Petroleum.....do.....	.08	.09
Maize.....do.....	.04	.06
Anise.....do.....	.10	.....

Description.	Price.	
	Minimum.	Maximum.
Groceries—Continued.		
Chick-pease.....per pound...	$0.15	$0.18
Eggs.....per dozen...	.18	.35
Wines and liquors:		
Sweet Malaga.....per bottle...	.40	.80
Dry Jerez.....do.....	.40	1.60
Dry Manzanilla.....do.....	.40	1.00
Common table.....do.....	.18	.60
Oporto.....do.....	.80	1.40
Madeira.....do.....	.80	1.40
Vermuth.....do.....	.65	.70
Rhine.....do.....	1.00	2.00
Burgundy.....do.....	1.40	1.60
Bordeaux.....do.....	.35	2.40
Champagne.....do.....	.85	2.00
Liquors.....do.....	.80	1.60
Cognac.....do.....	.80	4.00
Rum.....do.....	1.80	2.00
Spanish brandy.....do.....	.40	1.40
Meats:		
Bacon—		
Spanish.....per pound...	.30	.....
English.....do.....	1.00	.....
Beef and veal.....do.....	.20	.35
Mutton.....do.....	.15	.....
Ham—		
Spanish.....per kilogram...	.50	.70
English.....do.....	1.00	.....
Cheese:		
Spanish.....per pound...	.10	.12
French.....do.....	.50	.60
English.....do.....	.40	.50
Dutch.....do.....	.30	.....
Swedish.....do.....	.30	.....
Lard.....do.....	.35	.....
Sausages.....per 32 ounces...	.80	.....
Pork.....do.....	.50	.....
Salt pork.....do.....	.60	.65
Canned goods:		
English jams.....per tin...	.20	.40
Spanish jams.....do.....	.50	.70
Fish in oil.....do.....	.15	.60
Vegetables.....do.....	.20	.50
Soups.....do.....	.50	.60
Pickles—		
Onions.....do.....	.20	.40
Herrings.....do.....	.15	.35
Fish.....do.....	.20	.60
Salmon.....do.....	.25	.40
Red cabbage.....do.....	.40	.50
Orange marmalade.....do.....	.40	.....
Red and black currant jelly, per tin.....	.25	.40
Sauces.....per tin...	.25	.50
Biscuit.....per pound...	.20	.50
Honey.....do.....	10	.15

Some of the prices in the foregoing statement deserve special note. Flour costs from 8 cents to 12 cents per kilogram (2.2046 pounds), and it will be still dearer now, as the duty has been recently increased 4.12 pesetas (79½ cents) per 100 kilograms (220.46 pounds), which, added to the duty before existing, viz, 13.31 pesetas ($2.57), makes the present rate of duty 17.43 pesetas ($3.36½), per 100 kilograms. The duty on wheat has also been advanced 2.50 pesetas (48 cents), making the present rate 10.50 pesetas ($2.03) per 100 kilograms. This increased duty will, of course, raise the price of bread, which is now from 8 to 10 cents per kilogram (2.2046 pounds).

Potatoes cost from 3 to 4 cents per pound, and other vegetables are proportionally dear. Beef and veal cost from 20 to 35 cents per pound; mutton, 15 cents; bacon, from 30 cents to $1.00; pork, 50 cents; salt pork, 60 cents; eggs, 18 to 80 cents per dozen; tea, from 45 cents to $1.90 per pound, and even up to $2.15; coffee, 40 to 80 cents; butter, 30 to 55 cents; cheese, from 10 to 60 cents; sugar, 7 to 12 cents; and kerosene oil, 8 to 9 cents per pound.

A woman having a family of nine children, some of whom are employed in one of the cotton mills in the city, receiving from 5 to 20 cents per day each, told me that the food for her family cost her about $2.50 per week; I asked another woman, who has two children, how much she expended daily in the purchase of food for herself and family and she replied, "usually from 15 to 20 cents per day; sometimes, however, not so much," as she did not have so much to expend. She buys about 2 cents worth of meat to make soup, a little bread, a couple of cents' worth of coffee or tea or cheap wine, with potatoes, onions, garlic, and oil, and sometimes a little fish instead of meat, and from this she has two meals per day, and coffee, with bread, in the morning. Nearly all of the poor of her class in the city live in much the same way. If she earn a peseta (20 cents) per day, she is quite contented. Of course, those who earn 50 to 60 or 70 cents per day live somewhat better, besides having more comfortable houses in better and more healthful localities.

Apropos of the cost of living, a short time since there appeared an article in one of the daily papers by a young man whom we shall call A, who desired, he said, to marry, but with a small salary such as he was receiving, he could not support a wife or take upon himself the responsibility of providing for a family. Thereupon, two days afterwards, there appeared another article by Mr. X, who stated that he had been married some few months and his salary was the same—600 reales (about $30) per month—as that received by Mr. A, who could not afford to marry. In his letter to the newspaper, Mr. X set forth a list of the necessary expenses for a house on a salary of $30 per month. His list of expenses is given as follows:

Monthly house expenses.

Description.	Amount.	
	Reales.	
House rent	120	$6.00
Boiled dinner	60	3.00
Charcoal	20	1.00
Bread	75	3.75
Olive oil	15	.75
Fish	24	1.20
Sugar, coffee, and butter	30	1.50
Eggs	30	1.50
Vegetables	30	1.50
Spices, vinegar, and salt	4	.20
Dessert	30	1.50
Wine	18	.90
Servant	20	1.00
Washing expenses	10	.60
Tobacco	30	1.50
Light	12	.60
Total expenditure	528	26.40
Balance	72	3.60
Total income	600	30.00

The 72 reales ($3.60) unexpended, Mr. X stated, may be employed in purchasing clothes and shoes, in shaving, and other expenses.

To show how small a quantity of fresh meat is consumed daily in this city of 135,000 people, reference need only be made to the published figures of the number of animals slaughtered, which appears in the press of the city. Picking up a paper at random, I find the following as the number of animals slaughtered, on the day before the publication: 17 cows, 7 heifers and calves, 17 sheep and goats, and 15 hogs, a total of 5,068 kilograms (11,393 pounds) of fresh meat. Another paper, of another date, gives 16 cows, 5 heifers and calves, 27 sheep and goats, and 10 hogs, a total of 4,530 kilograms (10,004 pounds) of fresh meat for consumption in one day. The figures for these two days give a fair average of the daily consumption of fresh meat which runs between four one hundredths and five one hundredths of a pound for each man, woman, and child in the city.

It is estimated that fish is more largely consumed than meat, partly on account of its being cheaper, and partly because the people like it. Salt meat is used in a limited degree in the country towns and farming districts.

The cost of living for people in moderate circumstances is greater than in the United States. Clothing is dearer than in the United States, and, as far as I can learn, house rent is higher.

WAGES.

It is rather surprising that, while living is so expensive, wages should be so low. It would seem that where the wage-earner receives but little for his services, the necessaries of life should be proportionally cheap. Such, however, is not the case here, as compared with what the laboring man in the United States receives, per day or per month, in the same line of labor.

It need scarcely be noted that the wages here are very much below what are given in the United States, but the laborer here does not turn out as much work in the same number of hours as does the laborer in the United States.

Daily wages in Malaga.

Occupations.	Wages.	Occupations.	Wages.
Apothecaries*	$0.40 to $0.50	Mechanics	$0.60 to $1.20
Artisans (work on railroad tracks)	.30 to .35	Marble workers	.50 to .60
Blacksmiths and locksmiths	.60 to .70	Masons, general work	.40 to .65
Brickmakers	.80 to 1.00	Millers†	.40 to .50
Barbers (35 to 40 cents, with perquisites)	.50 to .55	Miners	.35 to .40
Bakers	.70 to .80	Nurses*	.15 to .20
Brewers	.35 to .50	Paper hangers	.40 to .50
Butchers	.60 to .70	Printers	.50 to 1.00
Chair makers	.60 to 1.00	Plumbers	.40 to .60
Cart drivers (in summer)	.40 to .50	Plasterers	.70 to 1.00
Coachmen	.50 to .55	Policemen‡	.45
Private	.60 to .70	Corporals	.50
Confectioners†	.70 to .80	Lieutenants	.60
Cooks:*		Captains	.80
In private families	.80 to .90	Chief	1.00
In hotels (first class)	.80 to 1.20	Sawyers	.40 to .60
Females	.14 to .20	Seamstresses and milliners in private families†	.10 to .20
Chambermaids	.10 to .12	Servants, general work	.10 to .14
Coopers	.15 to .25	Females	.08 to .10
Coppersmiths	.40 to .60	Girls	.05 to .06
Cabinetmakers	.85 to .90	Boys	.05 to .07
Carpenters	.60 to .70	Shepherds	.10 to .15
Boys	.10 to .15	Shipwrights	.80 to 1.00
Carriage painters	.80 to 1.00	Soap makers	.40 to .60
Carriage builders	.70 to .80	Stonecutters	.50 to .80
Calkers	.80 to 1.00	Sailmakers	.60 to .70
Country drivers†	.10 to .15	Shoemakers	.50 to .60
Clerks in dry-goods stores, etc.*	.20 to 1.00	Boys	.15 to .16
Clerks in fancy shops, etc	.40 to .60	Girls	.15 to .16
Dairymen	.30 to .40	Seamstresses, etc., in public stores	.20 to .30
Druggists*	.50 to .80	Silversmiths	.80 to 1.00
Dyers	.45 to .60	Track layers on city railways	.40 to .45
Electric works	.60 to 1.00	Turners	.50 to .60
Farriers	.40 to .60	Tin makers	.50 to .60
Farm and orchard hands†	.40 to .60	Tramways:	
Gas lighters	.40 to .50	Drivers	.50
Gas fitters	.40 to .45	Conductors	.50
Glaziers	.35 to .40	Upholsterers	.80 to 1.30
Gardeners, first class	.80 to .95	Vineyard men:	
Grinders	.35 to .40	In summer	.40 to .75
Gas workers	.40 to .50	In winter (and found)	.20 to .30
Harness and saddle makers	.60 to .70	Harvesters	.40 to .45
House painters	.50 to .60	Watchmakers	.50 to .70
Hatters	.60 to 1.20	Whitewashers	.50 to .70
Iron molders	.60 to 1.00	Waiters in hotels, etc., (20 to 25 cents, with perquisites)	.60 to .70
Laundresses†	.20 to .25	Workers in tanneries	.60 to .80
By piece	.02 to .05	Wood choppers†	.40 to .50
Laborers:		Washerwomen	.20 to .40
In wine stores	.35 to .40	Wharf men and bargemen:	
In stores	.40 to .50	In summer	.50 to .60
Lithographers	.40 to .80	In winter	.15 to .25
Machinists	1.10 to 2.40		

*Three meals. †Two meals. ‡Policemen furnish their own uniforms.

Low as the foregoing wages are, there is but little grumbling about them, the main reason being that the laborers have always been accustomed to work for these wages and even less, and there are more laborers than there is work. Now, however, that labor is becoming an organized body, it is probable it will make demands upon capital which unorganized labor has not considered. Unfortunately, the movement of labor along the line of organization tends toward being controlled by socialistic leaders, which can not result favorably for the cause of labor so long as socialism tolerates anarchistic practices in its organization. I do not know that this is true of the labor organization of this city, and I hope it is not for the laborers' sake and for the sake of society in general.

COTTON-MILL STRIKE.

The strike in one of the cotton mills here, beginning the first part of September, 1894, and continuing for nearly four months, was not for higher wages, as I understand, or against a threatened reduction, but was initiated by the leaders of the labor organization denying the privilege or right of the company or its representatives to discharge employees, unless sanctioned by the organization or by the committee appointed by the organization to take into consideration questions arising under this head. The socialistic organization also claimed the right, so I am informed, to say who should or who should not be employed by the company owning or controlling the cotton mill, declaring and maintaining that the company should not employ anyone who was not a member of the organization, no matter what his qualifications might be. As the representatives of the company would not submit, the strike was ordered and the doors of the mill were closed, though a large number of the operatives were opposed to such a course as that voted by the organization. The consequence of this action on the part of a majority of the organization, through the harangues of some of the leaders, was great distress and suffering to nearly all the operatives, who, while even employed, lived only from hand to mouth. For a short time after the "shut down," small sums of money were received from some of the different labor organizations throughout the country and distributed among the most needy, but it was not an easy matter to feed 2,000 or 3,000 people week after week. The contributions grew less, and so great had the suffering of most of the operatives become that, finally, a delegation was appointed to wait on the civil governor to request him to use his best endeavors with the company to open its doors. Accordingly, after a lapse of nearly four months from the closing of the mill, the doors were again thrown open and every operative before employed, with the exception of the leaders of the movement, who would not be taken back on any condition, and those who continued with the organization, were allowed to return to work. I understand the directors positively refused to give work in the mill to anyone who belonged to the organization, except on condition that he or she should cease to be a member of any labor organization whatever.

During the "shut down" of this mill, which is called La Industria Malagueña, some articles were printed by the organization charging that the owners of the mill, as well as some of the superintendents and managers of the company were overbearing, exacting, and oppressive with the employees, not treating them in such manner as they should be treated, and, further, protesting against the right of the company to prohibit employees from joining labor organizations. Among other points brought out during the strikes, were the wages received in the mills by the operatives and the profits of the company, which, according to the publication, were:

Wage earners.	Weekly wages.	Wage earners.	Weekly wages.
Folding department	$2.80 to $4.00	Folders	$4.60 to $6.15
Department for preparing cotton	2.65 to 3.80	Gum layers	3.80 to 4.75
Teaselers:		Dyers	2.80 to 4.00
Men	2.65 to 4.00	Nappers	3.35 to 4.85
Women	2.00 to 2.85	Engineers	3.55 to 4.00
Spinners:		Firemen	3.90 to 4.40
Women	1.90 to 2.90	Machinists	3.85 to 6.60
Men	2.80 to 3.50	Oilers	3.85 to 4.00
Weavers	2.85 to 5.00	Tinsmiths	4.95 to 6.40
By job	4.60	Coppersmiths	4.10 to 7.50
End joiners	2.80	Blacksmiths	3.05 to 6.00
Spool distributers:		Carpenters	3.80 to 5.00
Renewers (women)	1.85 to 3.00		4.15 to 5.60
	1.80 to 2.50	Sawyers	4.20 to 4.90
Men	2.75 to 3.00	Belt workers	2.45 to 3.15
Warpers:		Loom watchers (men)	3.75 to 5.50
Skilled	4.90 to 5.75	Double loom watchers (women)	2.40 to 3.50
Men	3.30 to 3.40		
Women	2.75 to 4.00		

The profits realized on the capital invested by the company, La Industria Malagueña, from 1886 to 1893, inclusive, as published in the Boletin Oficial and the Gaceta de Madrid, were:

	Per cent.
1886	4.43
1887	4.09
1888	2.25
1889	4.63
1890	2.63
1891	2.88
1892	.97
1893	.76
Total	22.64

The average was 2.83 per cent on the capital invested. These are the company's figures, I understand.

A short time after the mill was reopened, desiring to get information on the strike, its cause, etc., I submitted some questions under this head to the superintendent of the company, who said he would gladly give such information as he could. As it was not forthcoming in due time, I sent to

inquire regarding it and was assured I should have it; but nearly three months have elapsed since I submitted the question, and as yet have received nothing but promises; therefore, the information on this subject is from other sources than the company or any members or managers.

La Industria Malagueña, when running full, employs about 3,800 men, women, and children. Several strikes have occurred in the mill from time to time, showing that there has been something wrong in the management or with the operatives, or, perhaps, with both.

Facts relative to labor in every country show that too often the laborer, while "worthy of his hire," does not receive the wages he should receive for the services rendered. Facts show that he is often ill-treated, oppressed, and with little attention given to him by his employer and less concern as to his welfare or that of his family. The walking delegate, socialistic agitator, or so-called labor leader, takes advantage of this unfortunate method of treating employees to prevail upon and urge well-meaning and sensible laborers to "go out on strikes," which generally ends in the defeat of labor, together with untold suffering to those dependent upon the strikers.

HOW STRIKES MAY BE AVOIDED.

In Malaga to-day, exists a very striking and practical working of what the law of kindness, as applied by an employer to employees, has effected. Here, are located two cotton mills. Both have been in operation some forty or fifty years. One is called La Industria Malagueña, the other La Aurora. They stand side by side. The former employs about 3,800 hands, and the latter some 2,000. The operatives in each—men, women, and children—belong to the same class of people, They are, of course, the humbler class—the poorer class of the community—possessing, the men and women, as well as the boys and girls, the ordinary amount of native common sense and intelligence that persons of their class possess in any country. Whether these operatives have a fair amount of "book learning" or not I do not know, but it is to be supposed that children of poor parents do not have opportunities for acquiring school knowledge, even if they were so disposed, especially when, as is frequent here, many of these children enter the factory when under 10 years of age. Many a girl and boy, however, may be seen going to and returning from work in one or the other of these mills with as much native intelligence stamped upon their faces, with eyes as bright and keen, step as quick and haughty, and with as much grace and ease of action and manners as if they were the daughters and sons of merchant princes or college professors.

In the La Industria Malagueña, as already stated, more than once since its doors were first opened, discontent, dissatisfaction, and unrest have been apparent, terminating in strikes and distress, want, and suffering. Whether the operatives have had just cause for pursuing the strike policy or not, I do not know. That such a course was, however, followed at different times by the different operatives in this mill since its inauguration shows, quite as

conclusively as can be shown, that, at times, the course of tne company toward its employees was such that it did not prevent, even if it did not engender, the strikes.

But how has it been with the other cotton mill—La Aurora—the owner of which is an uncle of the chief owners of La Industria Malagueña, and is now a man upwards of 75 years of age? How has it fared with the operatives of La Aurora since its inauguration some forty years ago? The same class of men, women, boys, and girls have been employed in this mill as in the other. But during all these years, in which so many changes have taken place in the complexion of La Aurora, men and women, boys and girls dying, or leaving the mill for one cause or another and others taking their places, how is it that there has been no strike, no grumbling, no unrest, no complaints, no whisper of discontent? Have higher wages been paid in this mill than in the other? No. Have the hours of labor been less? No. Has the work been less laborious or fatiguing than in the other? No. Is there a different class of persons employed in this mill than the other? No. It is simply this: Señor Don Carlos Larios, the owner of the mill and employer of the operatives, applies the law of kindness to his employees. As every one says, he treats them well, he treats them kindly; he recognizes that his employees are flesh and blood, as he is. He realizes that when hurt, they feel the pain just as he would; when without food, they are hungry, just as he would be. He has, in fact, substituted the law of kindness for the practice of greed. If an employee is sick, he sends a doctor to look after him and pays for the necessary medicines. In case the employee's illness continues, he pays, on recovery, the wages the person would have received had he or she been at work during the time. In case of the death of the employee, the wages go to the family of the deceased, and, besides, if the circumstances of the family are such as to require it, he defrays the expenses of burial. When his operatives marry, Señor Don Carlos, as he is called, helps to "set them up" in housekeeping by presenting to the married couple several household articles which are indispensable for those entering such a state. Extraordinary diligence and care on the part of the employee in his or her work, or greater activity displayed by an operative, are duly recompensed in some way at some time by the proprietor of the mill; and every operative, being aware of this, seeks to do his very best. The superintendents of the mill can not be overbearing or oppressive toward employees in this mill, unless they are anxious to lose their job. "Like master, like servants." The same spirit of kindness which the owner practices toward his employees must be practiced by the subordinate superintendents in their different departments. So this spirit is contagious; all are moved and influenced by it.

The operatives have no labor organization. They need none, unless it were one partaking of a benevolent character. When Labor Day (May 1) is being celebrated by the labor organization, the operatives of La Aurora are at the mill in the morning as usual. It may be they go on with the work all

day as customary; or it may be Mr. Larios appears and says to the paymaster: Give each person double pay for the day and close the mill that the operatives may enjoy themselves; or it may be a bouquet of rare flowers or some other surprise is in store for the employees. Through this law of kindness, the business of the mill is conducted. Discord, dissatisfaction, discontent, unrest, and strikes are not on the programme of the operatives of this mill. They have no use for labor agitators. If an operative has any grounds of complaint, he goes at once to Señor Larios and states his case. But even complaints are rare, as the overseers are very careful to treat the employees well, partly because, if found on investigation they are at fault, they will be retained no longer in their positions, but chiefly on account of the spirit of kindness existing between operatives and superintendents, which has come, through the influence and example of the proprietor, to be regarded as one of the requisites for the success of both the employer and the employed.

So it comes to pass, through the law of kindness inaugurated by Señor Larios when the mill was first opened, forty years ago, that no breath of discontent has ever been breathed against him. He has made it an essential among overseers and operatives that no other spirit than that of kindness should find a resting place within the four walls of his mill. The 2,000 employees love Don Carlos, as they call him, as they would a father; and if anyone should be known to speak ill of him in the presence of any employee, the employee would resent it as quickly as if the ill-spoken word were uttered about the employee himself.

In an interview with Mr. Larios, he informed me that his rule of life has been to treat everyone with kindness and to supplement kindness, wherever required and it could be done, with charity. Said he:

If I ill treat or abuse, what can I expect, what should I expect, but treatment of a similar kind administered to me on lines corresponding to the moral and intellectual status of the person I abuse? It is largely due to the greed of employers and their not knowing their employees, not knowing their circumstances, their condition of life, trusting too much to exacting and overbearing overseers and superintendents in their relation to employees, that the differences, the disturbances, the ill feeling between labor and capital arise, resulting in strikes and lockouts and often carnage and slaughter of human lives, and always in suffering and misery. As superintendents and overseers, an employer should have humane men, kind men, feeling, sympathetic men. If they are not such, and are so constituted that they can not or will not become such, then employers should not have them. I will not have as overseer or superintendent such men in my employ. Then, again, an employer should know his employees, as far as it is possible for him to know them—who they are, how they live, what their circumstances are, etc. I am president of a society which my employees have formed for the good of all, and, though a busy man, I go among my employees. I know them; they know me. We understand one another, and if employers are inclined to be just and fair, there need be no conflict between capital and labor.

I do not know what other cause to attribute the absence of discontent, dissatisfaction, and strikes in La Aurora during the last forty years but to the spirit of kindness I have practiced toward my employees, the disposition I have shown to treat them well, to treat them fairly, to treat them justly, and to extend charity to those needing it, as well as to give them the wages due them. In fine, I have endeavored to follow the precept of the Divine Founder in doing unto others what I would they should do unto me.

These are the words of a man who has solved the most important question—the paramount question—affecting Christian governments and Christian society to-day, and solved it in such a manner as to endear him to every operative within his mill. Had the proprietor of La Aurora given his law of kindness a trial for one, two, or three years with the same 2,000 persons to deal with during the time, employers carrying out the practice of greed for themselves and manifest unfairness toward their employees might say the law-of-kindness method in such a case is simply an experiment and would not prove successful if put in practice for any length of time; but here are forty years in which the law of kindness has been tested, and not with the same operatives but with hundreds of changes in the mill during the time. It could not be attended with greater success.

Wherever, then, the law of kindness is adopted by employers toward employees, as Señor Don Carlos Larios has practiced it for forty years, there will be no question between labor and capital. The logical and the natural result will be what it has been in this case.

DAVID N. BURKE,
Consul.

MALAGA, *March 15, 1895.*

FRUIT CULTURE IN MALAGA.

GRAPES AND RAISINS.

The information herein given was chiefly obtained from a practical vine grower, Mr. A. I. Silva.

The cultivation of the vine in the Province of Malaga dates back at least to the times of the Roman occupation of this part of Spain; it may have been cultivated even anterior to the time that Spain was a conquered province of Rome.

Touching the subject of vine growing in this province, there was found in Antequera, about 40 miles from this city, a Roman inscription said to be of the time when Publius Rufus Maximus was imperial solicitor of this territory, stating that much attention was given to the cultivation of the vine brought from Palermo. Pliny, also, in his Natural History, mentions the vine growing in Alora, Alhaurin, and other places in this province. Arabic writers refer to the beautiful and fruitful vines and delicious wine of Malaga. All this goes to show that at least for eighteen hundred years, the cultivation of the vine and the making of wine has been carried on in and about Malaga, and has always been a very important branch of her trade and commerce.

I am unable to ascertain when the making of raisins from the grape was begun. Twenty-five to thirty years ago, the number of boxes of raisins

shipped from this port to the United States was about 1,200,000; last year, the shipment was 31,734 boxes. The number of acres under cultivation for the growing of the grapes, when such a large quantity was shipped to the United States, was estimated at 264,000. At the present time, however, it is estimated there are not above 60,000 acres under cultivation in Malaga free from phylloxera or disease. About 100,000 acres are partially destroyed; about 100,000 (estimated) totally destroyed. Some twenty-five varieties have entirely disappeared. To-day, however, the vines are in the most productive and fertile lands. The decrease of acreage is due partly to the phylloxera, which first appeared in the vines of this province in 1876, and partly to the increase of the vineyards of California. Very few of the grapes of Malaga are shipped to any foreign country; none to the United States. The muscatel would not stand the journey, so that from what are now grown in the province raisins are made.

The American vine "Riparia," seems to approximate more closely to the muscatel, in flavor and quality for making raisins, than any other foreign vine that has been introduced. It has, also, the quality, thus far of withstanding the attacks of the phylloxera, on account, it is said, of the hardness of the root; it will not, however, flourish on a calcareous or slaty soil.

The "Riparia" does not give as good satisfaction as the muscatel; neither does any other foreign vine. Therefore, wherever it is possible to do so, the muscatel is grafted upon the "Riparia." Besides the "Riparia," the "Hibrides," upon which to graft the muscatel, has also been introduced.

The life of the healthy muscatel is from forty to sixty years, and it begins to yield after about three years. When grafted upon another vine, the graft yields in about two years. The vine, however, on which the muscatel is grafted must be from two to three years old before the grafting can be done. This makes about five years after the foreign vine is placed in the ground, whether by means of seed or from a slip, before there is any fruit. Whether the grafted muscatel will yield as many pounds of grapes or of raisins to the acre as the pure muscatel, has not yet been ascertained, nor is it known whether the life of a foreign vine in this soil will be as long as that of the muscatel. The number of kilograms of raisins that can be obtained from a certain number of kilograms of grapes depends largely upon the locality and on the character of the soil in which the vine is grown. In general, however, it may be said that 100 kilograms of grapes will give from 33 to 40 kilograms of raisins.

No measures of importance have, I am informed, been taken to prevent the spread of the phylloxera or to exterminate the pest. It has gone on destroying vineyard after vineyard until the acreage of the healthy vines is now but about one-fourth what it was twenty to thirty years ago. Were it not for the American vine "Riparia," brought into the place about ten years ago, grape growing, which has flourished in this province for upwards of eighteen hundred years, would be at an end. Of course, with vineyards gone, raisin making would also disappear. Doubtless, should the "Riparia" continue

to thrive, vineyards now practically worthless through the loss of the muscatel and other varieties, will be replanted; this will apply only to vineyards on low lands, of alluvial soil. The "Riparia" does not flourish on rolling, hilly, or mountainous land, as some vine growers have already ascertained to their loss. Though the vine can be grown in all parts of Spain, it flourishes best in the south, and, especially in Andalusia, the muscatel of Malaga being considered here superior to any other grape for raisins. The other qualities of grapes grown in the province are used chiefly in the manufacture of wine.

Almeria, in this consular district, in the Province of Almeria, ships a large quantity of grapes to the United States every season, only the best quality, however, going thither. There seems to be something in the soil or the air, or maybe both, which gives to the Almeria grape an excellent "keeping" quality, on account of which these grapes command a good price in the market in New York and elsewhere in the United States; or it may be the "keeping" quality is in the grape itself. I am informed that the muscatel which has been grown so successfully in Malaga for many years will not flourish in the soil of Almeria, nor will Almeria vines grown in Malaga produce a grape that will keep as well as if grown in Almeria. Again, it is noted that the Almeria grape does not keep equally well every year. Those of last year kept much better than those of 1893, though the crop last year was very much smaller than that of the year before. On account of the phylloxera, it is estimated the yield this year will be less even than that of last year. If, then, the Almeria grape brought a higher price last fall than the California grape, as I am informed, it was probably due to the keeping quality of the Almeria grape of the last vintage, and not to the superiority in any other respect of the Almeria over the California grape. From what I can learn regarding the Almeria grape, I should say the quality of durability which characterizes it in some years, is neither due to the method of handling, nor to the method of cultivating, nor to the time of cutting the grape from the vine, but, as already stated, it is due to something in the soil or to the effects of sun or atmospheric conditions. Most probably, it is the influence in some way of one or both of the last two that imparts this quality, else why should grapes from the same soil and from the same vine and handled in the same way keep so much better in one year than another.

There are but very few large vineyards in Almeria, the consular agent there informs me, so that grape growing is not reduced to a science. The tens of thousands of barrels grown there and shipped to the United States, England, France, Germany, and other countries are grown by hundreds of small farmers, on small patches of land, on hill or mountain side, in the valley or on the plain. Scores of these farmers take to the market as the product of their patch only from 15 to 100 barrels each. It is their entire crop. Under such circumstances, it is but reasonable to suppose that the mode of cultivating and of caring for the vine is much the same now as it was in the years gone by when grape culture first became known there.

Should any California grape growers desire to give the Almeria vine a trial in California soil, I would say the cutting of the vines are made in January and the first part of February, which is the proper time to secure slips for setting out. It may be, now that the phylloxera has attacked the vines in Almeria, that no grower in California would care to run the risk of giving the Almeria vine a trial. If disposed to do so, however, and if he will notify me and forward amount for the payment of the necessary charges connected with the purchasing of the vines and shipping the same, etc., I will endeavor to attend to the matter.

ORANGES.

The varieties are numerous, at least in the names given them, though in quality, size, shape, and flavor, there is but a slight difference between most of the varieties grown. The oranges known as "China Dulce" and the "China Agria" are practically the only ones exported to foreign countries, being shipped chiefly to France, England, and Germany, none having been shipped to the United States during the past year. Both of these varieties are nearly round and of different sizes. Three sizes are exported. Of the smallest size, 720 are put in a crate; of the next size, larger, 420 to 500 are packed in the export crate; and of the largest size, about 300. These varieties, when ripe, have a delicious flavor, and are very juicy—the sweet of one is of a very palatable sweetness, while the slight acidity of the other is highly appreciated. They are called "China," because, according to the historical notice given, they were brought to the Continent of Europe from China.

The introduction of the orange into Europe from China dates back to the year 1333. It was first brought to some province of France. In 1421, it was taken to Pamplona, Spain. Slips or seeds were then taken to different parts of the country and it is now cultivated in many places along the Mediterranean coast of Spain.

Another variety, called the "Cajel," is, in size, shape, quality, and flavor, similar to the "China." This variety, however, is consumed in Spain, as it will not keep for export.

There is another variety called "Grano de Oro," which, it is said, was brought from the island of Malta to this place forty or fifty years ago. It is now grown in some of the towns in this province, not, however, very extensively; consequently, none of this variety is exported. It is not very juicy and, by some, is pronounced sweet to insipidity, while others declare it delicious. Americans who have tasted this fruit declare it equal to the California orange, which, they say, bears the same name and is of the same class.

Another variety is known as the "Caña Dulce." This variety had its origin in Malaga, having been obtained by grafting with other varieties of oranges, and, some say, with sugar cane. At all events, it has a slight sugar-cane flavor. It is much more juicy than the "Grano de Oro," with a much more palatable flavor, the sweetness not having the insipidity which characterizes the "Grano de Oro." In shape and size, it is about the same

as the "Grano de Oro." The production is small, and is consumed in the country.

The quantity of oranges exported in 1894, of the "China Dulce" and "China Agria" varieties—the only class exported—was 5,417,352 kilograms (11,939,804 pounds), valued at $139,439.05.

LEMONS.

Arabic writers speak of the lemon tree in Andalusia during the latter part of Moorish rule in this country. The method of propagating the tree at first seems to have been to graft a slip upon the citron tree. The result of this grafting, from some cause, seems to have given lemons of two different shapes, the one elliptical, the other almost round. The former are called "Reales" (real lemons) and the latter "Castellaños." It is these two classes that are exported, the former being the most highly appreciated. Of the above classes, there were exported in 1894, 5,454,120 kilograms (12,020,880 pounds), valued at $172,931.52. Of this quantity, the United States took 41,766 boxes, valued at $66,256. The inferior grade is shipped to the United States, the second grade to England and Germany, and the first grade to France and Holland. The old method of propagating the lemon tree by grafting it upon the citron has been abandoned because horticulturists have found that grafting on the "Naranja Agria," or tree of the acidulous orange, gives better results and produces a healthier and more juicy fruit. This is partly accounted for from the fact that the roots of the orange tree go deeper into the earth than the roots of the citron, and, consequently, are not affected so much by drought, and that the tree is freer from disease than the citron tree. The sweet lemon is not cultivated to any great extent, and those grown are consumed in the country.

When the lemons have attained their maximum growth, and while yet green, they are picked from the tree. After picking, they are piled up under the tree, remaining in the pile from twenty-four to forty-eight hours, for the purpose of seasoning sufficiently so that they may not become stained or spotted while being taken from the places where grown to Malaga, to be prepared for shipment. They are transported from the orchards in large two-wheeled carts, generally drawn by oxen. On arriving at Malaga, they are taken from the cart, placed in small piles upon the ground, near the warehouse of the shipper, and girls and women begin at once to wrap them in tissue paper for shipment, after the classification for the different foreign markets is made. The inferior quality, going to the United States, is placed at once by the wrapper into the boxes in which they are exported. She wraps and packs at the same time. The first quality, however, after being wrapped with more care, is placed by the wrapper in a basket, and the packing is done by another person. Three to five days usually elapse after picking the lemons from the tree before they are wrapped and ready to be shipped, and, not unfrequently, they remain a day or two on the wharf before being placed on board. They may remain before being shipped as many as twenty-five to thirty days provided they are kept dry.

They are brought to Malaga from surrounding towns at distances varying from 6 to 30 miles. When wrapped and packed they are actually green and perfectly green in color. They ripen and become yellow during the time of their transportation. There is no artificial process employed here, as some suppose, for ripening and yellowing the lemon. This is not considered necessary by the shippers here. The time elapsing from the picking of the lemon for export until it reaches its destination is sufficient to ripen and yellow the lemon. Both ripeness and yellowing might be hastened, however, by placing the lemons in a pile when picked, covering the pile with cloth and allowing them to remain under the sun, thus covered, for three or four days. But they must not be exposed to the rain.

More attention is being given to the culture of lemons than formerly, in consequence of which the quality is improving, the number of trees is increasing, and the quantity obtained from each tree is increasing also.

DAVID N. BURKE,
Consul.

MALAGA, *April 20, 1895.*

THE SPANISH HAT TRADE.

In the town of San Martin de Provensals (near the city of Barcelona), is situated the only manufactory of woolen hats in Spain. It was established three years ago at the cost of $90,000. Three thousand hats can be turned out a day. The demand in Spain is for about half that number. The remaining half is exported to Puerto Rico and the Philippine Islands. Besides this manufactory, there are five or six manufactories of beaver hats, but they produce rarely more than two hundred hats each. In the woolen-hat factory, from 130 to 180 men are employed and they produce two sorts of hats, one soft and the other hard. The soft hats are sold at from $2 to $5 per dozen and the hard hats at from $7 to $8 per dozen. About $8,000 worth of both kinds are at present exported. The outlook for the trade is not good just now, as Germany, Italy, and England have entered into competition with Spain in supplying the Spanish colonies with hats of this kind, and unless some kind of protection is given to the Spanish trade, Germany will drive Spain out of Puerto Rico and the Philippine Islands and put an end to the hat exportation from Barcelona.

Straw hats are also made in Spain, and large quantities of them are exported from Malaga.

As a rule, it may be said that only the cheaper kind of hats are made in Spain, and that the best in use here are those imported from England and France.

HERBERT W. BOWEN,
Consul-General.

BARCELONA, *May 8, 1895.*

SPANISH OLIVE OIL.

Spain produces more olive oil than any other country, the annual production being nearly 3,000,000 hectoliters (79,251,000 gallons), while that of France is only 300,000 hectoliters (7,925,100 gallons), and that of Italy is 1,300,000 hectoliters (34,342,100 gallons). The comparative production of the provinces of Spain in which the olive is cultivated may be seen in the following table:

Provinces.	Land under cultivation.	Oil produced.	Value of oil.
	*Hectares.**	*Hectoliters.**	*Pesetas.**
Alava	718	1,292	85,000
Albacete	19,404	31,527	2,456,000
Alicante	19,785	36,968	2,592,000
Almeria	1,956	5,318	358,000
Avila	2,008	5,235	326,000
Badajos	34,767	89,185	5,816,000
Balearic Isles	26,839	41,005	3,070,000
Barcelona	4,890	7,776	563,000
Caceres	25,412	52,650	3,176,000
Cadiz	12,577	29,263	1,170,000
Castellon	23,000	37,019	2,622,020
Cuidad-Real	30,216	76,994	5,017,000
Cordoba	191,046	586,696	36,973,000
Cuenca	9,082	10,932	743,000
Gerona	20,853	41,527	2,765,000
Granada	12,838	33,374	2,152,000
Guadalajara	17,652	29,151	1,977,000
Huelva	19,675	46,741	3,015,000
Huesca	15,214	27,699	2,063,000
Jaén	193,144	583,737	37,912,000
Lerida	56,657	160,286	10,458,000
Logroño	6,203	10,238	737,000
Madrid	10,940	13,600	1,027,000
Malaga	42,478	68,893	4,624,000
Murcia	26,443	86,398	5,689,000
Navarra	9,115	23,199	1,831,000
Salamanca	2,653	5,162	356,000
Sevilla	169,263	433,169	27,693,000
Tarragona	57,427	157,403	10,960,000
Teruel	13,535	40,321	2,540,000
Toledo	31,242	75,988	2,202,000
Valencia	31,803	75,350	5,261,000
Zaragoza	14,957	52,288	3,658,000
Total†	1,153,816	2,976,384	195,433,000

*1 hectare=2.471 acres; 1 hectoliter=26.417 gallons; 1 peseta=19.3 cents.

† Total, reduced to American measures, 1,153,816 hectares=2,848,839 acres; 2,976,384 hectoliters=78,627,136 gallons; 195,433,000 pesetas=$37,758,569.

The annual production of French olive oil is valued at 49,000,000 pesetas ($9,457,000), while that of Italy is valued at 195,000,000 pesetas ($37,635,000). It follows, therefore, that French olive oil is valued most highly, and that Italian olive oil, if considered equally good, would yield

18,000,000 pesetas ($3,474,000) more than it does. If Spanish olive oil were sold at French prices, it would be valued at 400,350,000 pesetas ($77,267,500) instead of its present valuation ($37,758,569).

The best olive oil in Spain is produced in Andalusia and Jaén, and the next best in Valencia, Tarragona, and Extremadura.

The reasons why better olive oil is not produced in Spain are (1) because the olives are not of the first quality, (2) because the machinery employed is not of the best, and (3) because the olive is not sufficiently studied.

HERBERT W. BOWEN,
Consul-General.

BARCELONA, *April 30, 1895.*

BARCELONA WOVEN GOODS.

The manufacture of woven goods has become a very important industry in the Province of Barcelona. The goods produced are exported in large quantities to many different parts of the world, and the demand for them is increasing very rapidly. During the last seven years, the amount exported has doubled, as the following figures will show:

Year.	Quantity.	
	Kilograms.	*Pounds.*
1888	430,946	950,053
1889	542,150	1,195,239
1890	674,495	1,486,992
1894	995,628	2,194,961

The countries to which they were exported during the year 1894, in the order of quantities exported thereto, were as follows: Philippine Islands, Puerto Rico, Cuba, France, Great Britain, Colombia, Canary Islands, Venezuela, Trinidad, Mexico, Fernando Po, Singapore, Germany, Martinique, Italy, Uruguay, Belgium, Egypt, Morocco, Brazil, Argentine Republic, Aden, Portugal, and Chile.

The cheap goods have the better sale, and are better able to compete with those of foreign nations. The more expensive goods are sold in Spain, as the heavy protective tariff prevents foreign goods from competing with them.

The center of weaving in this province is the town of Mataró, which produces every week 80,000 kilograms (176,368 pounds), or 60,000 dozens, of shirts, chemises, socks, and stockings.

HERBERT W. BOWEN,
Consul-General.

BARCELONA, *May 6, 1895.*

SLIDING SCALE FOR SOUTH WALES COLLIERS.

Nobody who has had experience of disastrous strikes can help being moved by the danger of a labor war, for almost everybody has in one way or another been affected by the dire results of social warfare, and whatever tends in the direction of averting strife between capital and labor deserves encouragement and publicity.

Since the terrible lockout which prevailed for several months throughout the South Wales coal field more than twenty years ago, there have been occasional stoppages, but the lesson taught then produced good fruit in the sliding scale arrangement, which, although by no means perfect, has, nevertheless, succeeded in maintaining far better relations than, in all probability, would have obtained had that system not been adopted. Yet now and again, a crisis is experienced and alarming fears are entertained as to the outcome. The South Wales people have just passed through this experience, and to-day, a million of people, including those indirectly concerned, have reason to be thankful that the crisis is over.

Personally, I have been deeply interested in the economics of the question involved, and I must confess that my experience of a practical nature, during half a century in mining affairs, has induced me to look with a very kindly eye upon the working of this novel arrangement, the results of which appear to me to be, on the whole, eminently satisfactory. Nor can I fail to recognize that the principle upon which the sliding scale is based might well be extended to other than mining matters, for its application to almost any industry is conceivable, and, when properly considered, resolves itself into a mere matter of detail.

Although the output of coal has continued to increase enormously, the prices have, during the past few years, been steadily declining, as has been the case in almost every branch of trade and commerce, in consequence of the universal depression. The miners have quite naturally chafed under such a condition of things, and there were thousands brought to believe that the sliding scale showed too much readiness to slide in a downward direction, and that, consequently, the operators were not so united in their endeavors to uphold the prices as in resisting the demands of their employees. The deplorable feature of recent events has been that, while notices to terminate the scale and to end all contracts were concurrently running out, a falling market was taking place, and negotiations toward amending the scale had collapsed, but, fortunately, by the time the notices had expired, articles were signed maintaining the *status quo.*

The latest revision of the sliding scale was effected in 1892, and, having obtained a copy of the "memorandum of agreement," I am enabled to give the pith of its contents in the following summary:

The joint committee have two secretaries, one appointed by the employers and the other by the workmen; the number of members of the

committee is twenty-two, equally apportioned, exclusive of the secretaries. The wages are regulated by a sliding scale based upon the average net selling price of coal, as ascertained and certified by two auditors, or accountants, one of whom is chosen by the operators and the other by the operatives. The average net selling price is taken as for large colliery-screened coal delivered free on board at the Welsh ports, and for coal sold into wagons or otherwise at the collieries the cost of transit to the ordinary port of shipment is added in calculating the price. The standard of wages upon which advances and reductions are made is the several rates actually paid at the respective collieries for the month of December, 1879, and such wages are equivalent to a standard average net selling price of 7s. 10¼d. and under 8s. ($1.91 to $1.944) per ton. The wages are advanced or reduced at the end of each period of two months by additions or reductions of 1¼ per cent upon the mean monetary result found by the auditors as between the old scale dated June, 1882, and the one dated January, 1890, there being neither maximum nor minimum.

The accountants give jointly a certificate of the net average selling price for each period of two months, and such price for the two months ending the last day of February is made to govern wages from the first day of April to the last day of May, and so on for every successive two months. Any contract for the sale of coal for a period of more than twelve months is not taken into account for more than six successive audits of two months each.

The cutting price paid the operatives includes "all services in respect of the small coal necessarily produced in getting the large coal, in conveying it from the working places to the screen at the surface, and in the process of screening, that price being equal to the value of all the services involved in getting such large and small coal in compliance with the provisions of the coal mines regulation act of 1887, and being more than the value of the services rendered in respect of the large screened coal only." (The simple meaning of which is that the men earn nothing on account of the fine coal which passes through the screen). After each tram is brought to the surface, it is weighed at the weighing machine and then tipped over the screen in use at the colliery to separate the large coal passing over it from the small coal passing through it, the tare being deducted from its gross weight. The small coal which has passed through the screen is weighed, and its weight is deducted from the gross weight of the coal in the tram to ascertain the net of the large screened coal, and upon this basis the wages are paid at least fortnightly and in most instances weekly. The agreement continues in force usually for six months, and thenceforth until either party gives six months' notice of termination, such notice to be given on the first of July or on the first day of any succeeding January or July; and a copy of the agreement is placed in a contract book at each colliery and signed by each workman and by or on behalf of the colliery owners. All other notices to terminate contracts are given only on the first day of any calendar month, and terminate upon the last day of the same month.

The joint committee meet monthly and are usually occupied in deciding upon appeals respecting disputes of various kinds at the mines, it being laid down in the agreement that, in such cases, "no notice to terminate contracts shall be given by either operators or operatives before the particular question in dispute shall have been considered by the joint committee and they shall have failed to arrive at an agreement." It sometimes happens, in certain collieries, that for local reasons, having to do chiefly with difficulties in hewing the coal or getting it away, the dispute can not be settled until a strike in the collieries affected leads the way to a compromise by arbitration.

The agreement of 1892 had to be modified to some extent in February, 1893, and was to continue in force until the 30th of September, 1894, and thenceforth until either party gave six months' notice of termination, such notice having to be given on the 1st of April, 1894, or on the first day of any succeeding October or April, respectively. Accordingly, on the 1st of October last year, the miners gave the necessary notice to terminate the scale at the end of March last. The representatives of the miners aimed to secure "three vital amendments to the agreement," viz, increase of percentage, the establishment of an umpire, and a minimum wage rate. Taking the last first, it has been very disappointing to the miners that, while the output has been increasing, the wages have been so regularly running downward that they naturally sigh for some authority to arrest these continuous reductions by saying in effect, "thus far shalt thou go, and no farther." For instance, when the scale of 1892, referred to above, was drawn up, the wages then paid were 46¼ above the "standard," whereas, to-day, they are 23¾ only above the standard. This downward tendency has served to fan the desire of the operatives to have a voice in the selling price of the product and in determining its minimum.

The desirability of an umpire has long since suggested itself, owing to the numerous ruinous strikes which have taken place in times past and the satisfactory issue of the English coal strike a few years since (which did not affect the South Wales coal field) when the present premier, before his elevation to the position of Prime Minister, succeeded in effecting a settlement of the terrible coal struggle. Moreover, there seems to be perfect unanimity in support of the proposed legislation making conciliation boards compulsory. But the main point at issue is, has been, and probably always will be, the amount of percentage allowed by the scale. To explain: Clause 10 of the 1892 agreement says "the wages shall be advanced or reduced at the end of each period of two months by additions or reductions of 1¼ per cent upon the mean monetary result found by the joint auditors as between the scale dated June 6, 1882, and the scale dated January 15, 1890." It will be apparent on the surface to anyone that the adjustment of this scale has taken a long while to bring about, and that changes have been deemed necessary. Well, the "mean monetary" result proved to be 8¾ per cent upon every shilling above the standard already fixed.

The difficulty of adjusting a scale sufficiently sensitive to suit the vagaries of the English coinage system has always asserted itself, and the best solution has probably been found in the following official tables:

When the average net selling price of coal per ton free on board is—	Percentage of wages above standard.	When the average net selling price of coal per ton free on board is—	Percentage of wages above standard.
	Per cent.		*Per cent.*
7s. 10.25d. and under 8s.	Standard.	11s. and under 11s. 1.71d.	27½
8s. and under 8s. 1.71d.	1¼	11s. 1.71d. and under 11s. 3.43d.	28¼
8s. 1.71d. and under 8s. 3.43d.	2½	11s. 3.43d. and under 11s. 5.14d.	30
8s. 3.43d. and under 8s. 5.14d.	3¾	11s. 5.34d. and under 11s. 6.86d.	31¼
8s. 5.14d. and under 8s. 6.86d.	5	11s. 6.86d. and under 11s. 8.57d.	32½
8s. 6.86d. and under 8s. 8.57d.	6¼	11s. 8.57d. and under 11s. 10.29d.	33¾
8s. 8.57d. and under 8s. 10.29d.	7½	11s. 10.29d. and under 12s.	35
8s. 10.29d. and under 9s.	8¾	12s. and under 12s. 1.71d.	36¼
9s. and under 9s. 1.71d.	10	12s. 1.71d. and under 12s. 3.43d.	37½
9s. 1.71d. and under 9s. 3.43d.	11¼	12s. 3.43d. and under 12s. 5.14d.	38¾
9s. 3.43d. and under 9s. 5.14d.	12½	12s. 5.14d. and under 12s. 6.86d.	40
9s. 5.14d. and under 9s. 6.86d.	13¾	12s. 6.86d. and under 12s. 8.57d.	41¼
9s. 6.86d. and under 9s. 8.57d.	15	12s. 8.57d. and under 12s. 10.29d.	42½
9s. 8.57d. and under 9s. 10.29d.	16¼	12s. 10.29d. and under 13s.	43¾
9s. 10.29d. and under 10s.	17½	13s. and under 13s. 1.71d.	45
10s. and under 10s. 1.71d.	18¾	13s. 1.71d and under 13s. 3.43d.	46¼
10s. 1.71d and under 10s. 3.43d.	20	13s. 3.43d. and under 13s. 5.14d.	47½
10s. 3.43d. and under 10s. 5.14d.	21¼	13s. 5.14d. and under 13s. 6.86d.	48¾
10s. 5.14d. and under 10s. 6.86d.	22½	13s. 6.86d. and under 13s. 8.57d.	50
10s. 6.86d. and under 10s. 8.56d.	23¾	13s. 8.57d. and under 13s. 10.29d.	51¼
10s. 8.57d. and under 10s. 10.29d.	25	13s. 10.29d. and under 14s.	52½
10s. 10.29d and under 11s.	26¼		

NOTE.—A dollar is equivalent to 4s. 2d.

The foregoing table is fixed on the basis of 8¾ per cent upon every shilling above what is termed the standard net average selling price of 1879, and forms the mean between 10 and 7½ per cent upon every shilling ditto. In 1890, the 10 per cent scale was in operation and the aim of the miners recently has been to have it restored, but the operators, on the other hand, insisted upon maintaining their own views as to the desirability of the scale being brought down to 7½ per cent, which, I need hardly say, would make a serious difference as compared with 10 per cent when the price of coal happens to be abnormally high.

Let me here point out that it is impossible to fix the average wage earned by the South Wales miner, nowadays, as the amount varies according to the position, etc., of the working place, and, moreover, depends to some extent upon whether help is engaged by himself and to what extent, but approximately it is understood to be about $1.50 per day, of between eight and nine working hours, the single-shift system being everywhere in vogue. My information on this point is borne out, to a great extent, by an arrangement of a temporary nature arrived at in one colliery, owing to certain local difficulties in getting the coal away, where the miners are paid 4s. 6d. ($1.10) per day. Add to this the percentage, and it makes $1.50.

It would be wrong to ignore the fact that there is a chronic discontent which breaks out into an eruption when wages are falling off, but, although

crises come now and again, the Welsh miners, by a large majority, pin their faith to the principle and are disposed to quarrel only with the adjustment of the scale. For a period of two or three months before the expiration of the notice given by the miners in October last to terminate the scale at the end of March, trade and credit generally were seriously affected throughout the district, and this condition of things was made worse by the action of the operators in issuing notices on the 1st of March that all contracts would cease on the 31st, the same date as that upon which the notice given by the miners would run out. Whenever a revision has been attempted before, the notices to terminate contracts and notices to end the scale have been given by the same parties, and that seemed to be the natural order of things. However, this "about face" had the desired effect in bringing matters to a head, and results have proved that as a strategical move it was an admirable *coup de main* from the operators' point of view. A convention of miners followed, and it was resolved to issue voting papers to all the workmen interested, upon which they were asked, individually, to mark in favor either of the principal of the scale or of a conciliation board. In the convention itself, the voting was about two to one in favor of a scale, and by a very considerable majority, the miners generally supported that view. A conference followed the last week in March between the members of the joint committee of the sliding scale, and after considerable discussion, the agreement of 1893 was ratified and the continuance of the "8¾ scale" is thereby assured for a period of practically two years.

Although at the same time the members were obliged, in accordance with the result of the audit, to sign a declaration of a reduction in wages to the extent of 3¾ per cent, thus reducing the percentage above the standard to 18¾, peace reigns and on every hand are signs of rejoicing. As far as can be foreseen, the future prospects are cheerful, although it is but right, on my part, to add that large numbers of people are yet afraid that the truce will not be observed for any length of time. I may add that, if the operatives were strongly united and possessed of sufficient funds, there seems ample room to doubt whether the crisis would have been tided over so speedily as has proved to be the case.

In the conciliation bill, which the British Government proposes to push through Parliament, the first clause provides that—

> Where a difference exists or is apprehended between an employer or any class of employers and workmen, the Board of Trade may, if they think fit, exercise all or any of the following powers, viz: (1) Inquire into the causes and circumstances of the difference, and make such report, if any, thereon as appears to the board expedient; and (2) invite the parties to the difference to meet together, by themselves or their representatives, under the presidency of a chairman, mutually agreed upon or nominated by the Board of Trade, or by some other person or body, with the view of the amicable settlement of the difference.

It will be observed that there is no compulsion in any respect whatsoever, but the action of the Board of Trade would depend upon application being made by one or both of the parties, and even then, it must take into consideration whether there is in that trade or district any other existing adequate

means of settling such disputes without its interference. However, the machinery of the Board of Trade would be required only in extreme cases and would then be available, and it is proposed to empower the board to invest the conciliator with power to examine on oath, etc., and to compel witnesses to undergo examination. The *Counseils des Prud'hommes* in France have had a long history, and recent legislation in several continental countries shows the trend of public opinion to be much the same as in the States of New York and Massachusetts. The history of the South Wales sliding scale teaches plainly the great value of a sensitive mechanism whereby the wage rate is influenced by the sale price of the product, and when supported by conciliatory methods, the problem of settling differences between capital and labor is in a fair way toward solution.

ANTHONY HOWELLS,
Consul.

CARDIFF, *April 5, 1895.*

LUXEMBURG LABOR EXCHANGE.

The Luxemburg Labor Exchange (Bourse du Travail) was instituted by the grand ducal Government on November 19, 1892. Every post-office in the Grand Duchy cooperates in this service, which has for its object the transmission of offers of and applications for employment between wage payers and wage earners.

In establishing the labor exchange as a branch of the postal service, the Luxemburg Government has given a practical illustration of its interest in the welfare of the laboring classes of the country; for, by making each post-office an employment bureau, the enjoyment of the advantages offered by the exchange is placed within the reach of everyone in need of employment.

The postal establishments which participate in the labor exchange service comprise 26 post-offices, 12 postal agencies, and 14 relay stations The lists of offers and applications are publicly posted in these 52 bureaus, and also in the 101 railway stations and 2,180 hotels, restaurants, cafés, and public houses of the country.

Offers and applications are addressed to the nearest postmaster or to the chief post-office in the city of Luxemburg, postal cards specially prepared for the purpose being used. The applicant may, if he prefers, go in person to the post-office and have his offer or application registered there.

When it is desired to withdraw an application or offer, notice must be given to the post-office.

If the applicant does not live near a post-office, the postmaster informs him by postal card when an offer of employment is received for him.

The post-office assumes no responsibility in the business transactions between employers and employees, its duties being restricted to the acceptance, transmission, and posting of applications and offers. The services rendered

to employers and to employees by the labor exchange are entirely gratuitous.

The following table shows the extent of the service rendered to the working classes of this little country by the labor exchange since its inauguration on December 1, 1892:

Month.	Applications for employment.		Offers of employment.		Offers of employment accepted.	
	Number presented.	Number realized.	Number of employers making offers.	Number of employees sought.	From how many employers emanating.	Number of employees engaged.
1892.						
December	88	10	55	76	15	13
1893.						
January	129	85	150	205	85	79
February	133	111	167	227	121	112
March	95	127	215	265	170	195
April	84	78	196	247	155	190
May	69	75	155	302	124	157
June	54	56	148	190	163	236
July	49	68	149	180	133	207
August	33	46	157	203	102	117
September	68	34	99	114	124	154
October	96	48	89	97	101	119
November	101	53	127	146	216	285
December	156	117	98	105	180	203
1894.						
January	107	109	139	172	134	154
February	72	124	173	253	126	161
March	58	110	202	262	180	218
April	52	74	190	310	161	231
May	60	50	147	214	174	232
June	38	43	140	188	140	200
July	53	42	142	170	163	220
August	46	56	158	209	141	182
September	38	29	164	208	169	223
October	59	27	143	182	146	191
November	56	64	129	136	166	196
December	110	65	94	98	125	152
Total	1,904	1,701	3,626	4,759	3,514	4,427

GEO. H. MURPHY,
Vice-Commercial Agent.

LUXEMBURG, *February 20, 1895.*

THE LABOR BOURSE OF NANTES.

There was established in Nantes, in 1893, an office where working people, male and female, out of employment, could register their names and addresses, giving all particulars as to age, sex, trade, experience, etc. This cost the person who registered 10 cents only. The office advertised

in the papers to attract the attention of merchants, and was successful. When the applicant secured his or her position, 10 cents more was paid. This office has grown apace, and is now known as the Bourse de Travail, *i. e.*, the "workman's bourse." Even at the low price of registration and remuneration upon securing employment, it more than pays expenses, and many men and women who would be, perhaps, otherwise unemployed, are secured profitable positions.

The movement originated with the workmen themselves, and employers were quick to see that men and women who organized and advertised for such a purpose deserved patronage; and they got it. Only two years have elapsed since this "bourse" was founded; but if an employer wants a workman now he knows exactly where to go and to get his "record." A man or woman with bad records can not register. The "bourse" prides itself on its being able to give help that is seldom, if ever, dismissed for incompetency or bad morals. The merchants have realized this and rely upon the bureau. It is enormously beneficial to both capital and labor, and since its inauguration, strikes in this consular district have greatly decreased. The great success of the movement is due, no doubt, to the small charge of 10 cents, which almost any unemployed workingman or woman can pay.

REAVEL SAVAGE,
Consul.

NANTES, *May 20, 1895.*

FOOD PREPARATION IN EUROPE.

The recent alleged scarcity of meat in the United States has helped to bring before the minds of the people of France the necessity of looking to home production for supplies; and much has already been done to consolidate and increase this disposition by interdicting the importation of American cattle and by attempting to supply any deficiency which may exist by substituting horseflesh, or by such measures as political economists have endeavored to demonstrate as practical under the following propositions: (1) That an abundant supply of home-grown meat and foods can be obtained at low prices; (2) that they are capable of being prepared for consumption so as to yield much better results than have been hitherto obtained; (3) that they can be effectively worked in a much more economical manner than heretofore; and (4) that they may be distributed so as to be promptly delivered in any and every direction to satisfy the wide and varied requirements of every class of consumers.

It is said that statistics will show that all the food required by the people of France can be produced in this country, and thus put into the pockets of the French peasants many millions of francs hitherto sent abroad, while the price of meat will at the same time be so reduced as to bring it within the reach of the poorest classes in increased quantities. It remains to be seen whether this can be effected. The general impression has been that meat is

in short supply in France. At the present time, it is certainly phenomenally dear at Havre, the best cuts of beef selling at from 45 to 50 cents per pound; mutton, 35 to 40 cents; veal, 35 to 38 cents; and chickens, from $1 to $2 each, according to size and quality. In spite of these prices, it is still claimed that meat is abundant and cheap, and that the current rates will soon be brought down to a price at which people can be substantially fed at a very nominal cost. This, no doubt, implies the utilization of horseflesh and certain refuse matters of the slaughterhouse, such as bones, offal, and vicera, which have hitherto been thrown away.

Of course, it goes without saying, that the prevention of any waste is of paramount importance in this matter, and it is asserted that a saving of fully 10 per cent can be easily effected in this way, thereby adding more than 500,000,000 francs annually to the estimated earnings of the working classes, which now amount to over 5,000,000,000 francs a year. The essential requirement, it appears, is the general establishment in grazing districts of slaughterhouses with refrigerating chambers and appliances for the utilization of the edible offal, while fresh, coupled with facilities for the preparation of boiling joints and the proper treatment of refuse, which, it is believed, would at once place home farmers on a footing of equality with meat dealers abroad. It is further pointed out that a combination of cooperative societies will bring consumers and producers into more direct contact, to the advantage of both.

In the matter of shipping cattle to Europe, American dealers seem to be sadly in need of the exercise of that common sense which has generally been regarded as a feature of the American character, and, as a result, European governments have adopted stringent measures to stop the importation of cattle from the United States. Formerly many animals were shipped from the United States to this port, principally for the Paris market. These animals came jammed into steamers with no proper provisions for their safety and comfort, and practically no attention en route, except nominally from a class of men wholly irresponsible and unsuited for the work. Many of the animals, seasick and battered from the roughness of the sea, and it may be for days without food, water, or sleep, would die on the steamer, while those landed at the end of the journey were for the most part in a crippled, bruised, and famished condition, and often so exhausted as to render their removal from the steamer extremely difficult. What wonder that European governments should interdict the importation of animals under such circumstances?

Animals intended for the food market of Europe should not be transported in rough weather, without abundant provision being made for their protection on the steamer, in the way of padded stalls, swings, etc., and, above all, under the care of intelligent, humane, and reliable attendants, who will not prod and beat them from wanton and vicious cruelty.

C. W. CHANCELLOR,
Consul.

HAVRE, *May 7, 1895.*

PERUVIAN COTTON.

Owing to the difficulties in the way of its transportation, little, if any, of the cotton raised east of the Andean range finds its way to the coast, and little is known about its cultivation, yield, and quality. The finest quality of cotton raised in Peru comes from the department of Piura, and it is about this cotton that I will principally write.

It is packed in bales of 175 pounds, in light bagging, and is secured by iron bands or ties. The baling and ginning cost about 75 cents (gold) per 100 pounds.

Many "Eagle" cotton gins, or presses, are successfully employed.

Laborers receive from 25 to 30 cents (gold) per day of from nine to ten hours.

The plant is perennial, yielding twice a year for from ten to twenty years. The first crop comes some ten months after sowing the seed. It is the most costly, as the succeeding ones require labor only for trimming the plant and picking. A bale of 175 pounds is made from 490 pounds of seed cotton. The yield of "raw cotton" is said to be from 300 to 400 pounds per acre.

The cultivation of cotton received great stimulus during the civil war in the United States, and its exportation from Paita began to excite attention in 1862. It is highly prized by American manufacturers, who frequently import it from the Liverpool market.

Referring to Peruvian cotton, a gentleman well versed on the subject, said about it:

For obvious reasons, the Peruvian cotton does not at all conflict with the American; quite the contrary, an extension of its use in the United States will develop business in those manufactures for which American cotton is not suited. This cotton is used exclusively by manufacturers of woolen goods, especially of underwear and hosiery. The mixing of this cotton with wool can not be called adulteration at all; in fact, in very many cases, the cotton is more valuable than the wool with which it is mixed, because it improves the woolen goods, reduces the tendency to shrinkage, makes them more durable, gives them a better luster and a different finish. For dyed goods, it is equally suitable as it takes the dye very well, *i. e.*, it makes fast colors. This cotton ought to be called vegetable wool. When carded, its resemblance is so close, and its characteristics so strikingly similar to wool, that it could readily be sold as wool. When woven along with wool, the cotton fibers can not be determined with certainty except by special tests.

On the subject of cotton production in Peru, Markham, the historian, whose statements are regarded as authoritative, says:

Cotton, the indigenous product of the coast valleys, is next in importance to sugar. The staple of Peruvian cotton is longer than that of New Orleans or any indigenous Indian cotton, though shorter than sea-island or Egyptian. Its mean length is 1.3 inches, while that of sea-island is 1.61; of Egyptian, 1.41; of Brazilian, 1.17; of New Orleans, 1.02; of India, 89. Peruvian cotton is a perennial, and was cultivated by the ancient people, who used a machine for separating the seeds, consisting of two rollers turning different ways with handles, like the

Indian churka. The chief cotton district in the south of Peru includes the provinces of Ica, Palpa, San Xavier, and Naska. A single proprietor, Don Domingo Elias, reported 400,000 pounds of cotton in 1853 from Ica. Further north, cotton is cultivated in the valleys of Casma, Trujillo, Chiclayo, Jequetepeque, Lambayeque, Piura, and Chira. From the two latter provinces, the export in some years has been 20,000 quintals. The plant here is a perennial tree yielding for ten years and flowering twice annually. It is a variety of *Gossypium barbadense* and that from the south is *C. arboreum*. The yield per acre in the Chira valley is from 1,500 to 2,000 pounds, and the estates are worked with diligence and a due outlay of capital, there being pumps and cotton gins worked by steam, and on one estate a centrifugal pump. The cotton industry of Peru has been largely extended of late years, and, in 1877, the value of the cotton exported was £160,000 ($787,560).

By the extension of irrigation, which is projected and practicable, vast areas of now desert lands would become particularly suited to the cultivation of cotton. Hence, it may be truly said that cotton is destined to become one of the principal products of Peru.

LEON JASTREMSKI,

CALLAO, *April 10, 1895*. *Consul.*

SWISS COTTON INDUSTRY.

The Swiss cotton industry during the year 1894 did not prove remunerative. The prevailing low prices of raw cotton, which reached the lowest point ever known, was one of the principal causes to depreciate values and depress the trade in cotton manufactures. Such a state of affairs is readily explained when the steady decline in the price of raw cotton is considered. The depreciation was brought about by the increased production in the United States, Egypt, and other countries.

The consumption could not possibly keep pace with the ever increasing production, and great quantities of raw cotton had to be carried over from one season to another. In the campaign of 1891–92 alone, 2,000,000 bales, in round numbers, remained unsold. Overproduction, brought about by an increased acreage, by modern methods of cultivation, fertilizers, and the growing demand for cotton seed and its products, were not the only causes of the decline in cotton values, but the inauguration of modern transportation facilities, enabling exporters to move crops quicker, and competition among carriers materially reducing freight charges helped to a great extent to accumulate stocks in the principal cotton markets and consequently affected values. Transportation during the last decade has undergone wonderful changes. Technical progress has made one pound of coal furnish as much steam as did 3 pounds twenty years ago. Less time is required nowadays to build freight steamers than formerly. The carrying capacity of the same is much greater, and the risks of ocean traffic have been much reduced. The saving in time and in manual labor is very great. By a technical process, the natural product is freed from all foreign substances.

Since cotton seed is made to produce a valuable oil, and its residue made into oil-cake meal, which sells readily for feeding purposes, the cotton plant-

ers can well afford to sell raw cotton at lower prices and still find cotton raising a remunerative occupation.

Barring unforseen accidents, tending to reduce the output, cotton raising is not likely to be curtailed, therefore there is no danger of a material advance, although prices last year reached the lowest point ever known. Egyptian cotton dropped from 5d. (10 cents) to 4d. (8 cents) per pound, or 20 per cent, and American from 4¼d. (8½ cents) to 3d.–2¾d. (6 to 5½ cents) per pound, or about 30 per cent.

The depreciation at the North German seaports in 1892 was 12½ cents; in 1893, 10 cents; and in 1894, 6⅞ cents.

Prices did not fluctuate perceptibly until fall, still the decline up to that period amounted to from 5 to 6 francs per 50 kilograms net (96.5 cents to $1.16 per 110 pounds). A heavy decline, however, took place when the crop estimates heralded that the incoming cotton crop would supply over 9,500,000 bales. At the end of October and early in November prices fell to the lowest point, and the new crop then afloat was offered "to arrive" at 2¾d. (5½ cents) per pound on November 12.

It is evident that under such circumstances manufacturing business had to suffer, and all speculative demand disappeared. Whatever was bought would, after a few days, prove a purchase at too high a figure, hence manufacturers had to confine their purchases to a hand-to-mouth policy, buying just enough to satisfy their immediate requirements. When, however, in the latter part of November and during the month of December the price of American cotton had again advanced to 3d. (6 cents) and to a fraction over that figure buyers felt more secure, and larger transactions were recorded.

The Swiss cotton imports for 1894 reached 252,682 metric centals (55,590,040 pounds), as against 222,996 metric centals (49,059,120 pounds) in 1893. To this can be added 14,296 metric centals (3,145,120 pounds) of cotton waste, in all intended for spinning purposes 266,978 metric centals (58,735,160 pounds). Switzerland exported 21,241 metric centals (4,673,020 pounds) of cotton waste, so that 246,737 metric centals (54,282,140 pounds) remained to be spun into yarn. Deducting therefrom 3 per cent for actual loss, there still remains 239,335 metric centals (52,653,700 pounds) to be spun, *i. e.*, this should have been the yarn spun in Switzerland during 1894, provided the whole importation of cotton and cotton waste had been worked up; at any rate, the Swiss yarn product can be put down safely at 230,000 metric centals (51,000,000 pounds).

The imports of plain raw yarns principally from England, Belgium, and Germany receded to 829 metric centals (182,380 pounds), while the exports of that article show an increase.

Exports in 1894 in plain yarns foot up 50,709 metric centals (11,155,980 pounds), and show an increase over the previous year of 8,344 metric centals (1,835,680 pounds). The exports of bleached and dyed yarns have also made good progress, the exports of the former footing up 2,215 metric centals (487,300 pounds) and of the latter 12,486 metric centals (2,746,920 pounds)

against 1,415 metric centals (311,300 pounds) and 11,805 metric centals (2,597,100 pounds), respectively, for the previous year, and also show an increase of 1,481 metric centals (325,820 pounds), while the imports of bleached and dyed yarns, being 2,807 metric centals (617,540 pounds), show that this line remained at about the usual figure. The Swiss yarn twisters have as yet been unable to drive out German and English competition, as shown by the following figures: Imports, 2,229,040 pounds; exports, only 461,340 pounds.

A still more unfavorable showing, comparatively speaking, is made by the Swiss weaving trade. This year's exports have decreased from 6,089,600 pounds in 1893 to 4,443,340 pounds, thus showing a decrease of 1,646,260 pounds. This small loss would hardly be felt if the export of bleached, dyed, printed, and embroidered cotton piece goods had increased proportionately, which, however, is not altogether the case, with the exception of dyed piece goods, in which article an increase of 78,980 pounds is shown. Exports in the remaining fabrics named have all gone back. Cotton prints exported, which figured up 3,567,520 pounds in 1893, went back to 3,383,600 pounds in 1894; colored cotton piece goods, 4,014,340 pounds in 1893, to 3,648,480 pounds in 1894; embroideries, 7,223,260 pounds in 1893, to 6,967,620 pounds in 1894; or, on the three last named lines, an export decrease of 805,420 pounds. It is true that the imports of unfinished goods have decreased by 201,520 pounds, being in all 2,892,340 pounds for last year. The other lines do not show much of any changes; the finished piqués, basins, damasks, brillantés, and figured goods, however, show an import increase of 623 metric centals (137,060 pounds). The total imports of raw and manufactured cottons amounted to 319,156 metric centals (70,214,320 pounds) and exports 185,232 metric centals (40,751,040 pounds).

Thus, it will be seen that the Swiss spinning industry has succeeded in increasing exports to foreign countries. Not only do the dyed yarns find their way to foreign countries, but the raw yarns as well, which are known to be distributed in twenty-two different countries, the principal among which are Germany, 6,026,900 pounds; Austria, 3,141,820 pounds; France, 1,191,520 pounds; Italy, 396,660 pounds; Spain, 243,320 pounds; and Russia, 54,560 pounds.

The principal exports of dyed yarns go to the following countries: British India, Asiatic Turkey, Netherlands, Austria, European Turkey, Danube countries, Netherlands Indian colonies, and eastern Asia. The total export of yarns, as raw, twisted, bleached, and dyed amounted to 67,489 metric centals (14,847,580 pounds). This is a figure not reached for many years past. While the profits on this line are small, it nevertheless goes to show a marked expansion of the Swiss spinning industry, which, when added to the numerous other interests of the country, is of great importance.

It is confidently expected that the exports in the above lines will show a marked increase in 1895.

EUGENE GERMAIN,

ZURICH, *March 12, 1895.* *Consul.*

PRICES OF GOODS FOR THE KONGO.

I have the honor to inclose herewith a table giving the prices paid at Antwerp by the Kongo Free State for cloth, beads, hardware, etc., intended for trade purposes, and also the prices charged for these articles in different parts of the territory of the Kongo Free State. In many instances, I have retained the French names for different articles, as it was impossible to translate them.

Most of the cloth comes from Manchester, England, but Belgian manufacturers have recently established mills for its production. The beads come from Italy and France.

Prices paid by the Kongo Free State in Antwerp, and prices charged in the territory of the Kongo Free State, May 28, 1894.

Articles.	Unit.	Price per unit at—					
		Antwerp.	Lower Kongo.	Caravan road.	Stanley Pool.	Stations accessible to river steamers.	Other stations.
Cloths.							
Saved list:		*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**
B. 80—81	Piece	10.89	12.30	13.65	14.95	15.65	17.65
B. 20—21	do	52.25	58.90	65.55	72.25	75.60	85.55
Handkerchiefs:							
B. 86	Dozen	2.48	2.80	3.10	3.40	3.55	4.00
B. 27	do	1.58	1.80	2.00	2.20	2.30	2.60
Red, No. 5438	do	3.82	4.20	4.60	5.00	5.20	5.80
Blue, No. 5435	do	3.82	4.20	4.60	5.00	5.20	5.80
Satinette, B. 88	do	4.74	5.20	5.60	6.05	6.30	6.95
Indigo drills, B. 55	Piece	8.53	9 95	11.40	12.80	13.50	15.65
Striped drills, B. 66	do	4.74	5.80	6.85	7.90	8.40	10.00
Fancy bandy cloth, B. 61	do	8.43	10.25	12.10	13.90	14.80	17.55
Blankets:							
Stamped colors—							
B. 42	do	2.95	3.60	4.25	4.95	5.25	6.25
B. 36	do	4.74	5.30	5.90	6.45	6.75	7.60
B. 37	do	4.63	5.20	5.75	6.35	6.15	7.50
Striped, B. 41	do	3.75	4.55	5.35	6 15	6.55	7.75
Kaniki:							
Strong, B. 26	do	4.21	4.80	5.35	5.90	6.20	7.05
Very strong	do	8.90	10.30	11.60	12.95	13.60	15.60
Ginghams, No. 3505	do	4.84	5.70	6.60	7.45	7.90	9.20
Dona Khanya, A. 4	do	6.11	6.30	6.55	6.75	6.85	7.15
Reversibles, No. 2610	do	7.27	8.15	9.00	9.90	10.30	11.60
Scotch checks, No. 2960	do	5.06	5.85	6.65	7.45	7.85	9.05
Corded checks (Mexicans), B. 65	do	5.69	6.90	8.00	9.20	9.80	11.55
Checks large:							
No. 466	do	3.10	3.90	4.70	5.50	5.90	7.10
C. 3	do	2.31	2.70	3.10	3.50	3.70	4.30
B. 18	do	5.66	6.55	7.45	8.35	8.80	10.15
B. 5	do	5.92	6.90	7.90	8.90	9.40	10.90
B. 4	do	3.69	4.40	5.10	5.80	6.15	7.25

*1 franc=19.3 cents.

Prices paid by the Kongo Free State in Antwerp, etc.—Continued.

Articles.	Unit.	Price per unit at—					
		Antwerp.	Lower Kongo.	Caravan road.	Stanley Pool.	Stations accessible to river steamers.	Other stations.
Cloths—Continued.		*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**
Indienne, B. 95	Piece	2.84	3.15	3.50	3.80	4.00	4.50
Striped Borneo, B. 121	do	5.27	6.60	7.90	9.25	9.90	11.90
Mattress cloth, B. 23	do	6.95	8.10	9.45	10.70	11.30	13.20
Sailcloth, B. 31	do	11.00	15.00	19.00	23.00	25.00	31.00
Guinea Kaniki, B. 26	do	6.11	6.90	7.70	8.50	8.90	10.10
Adrianople	do	1.58	2.00	2.45	2.90	3.10	3.75
Scarlet cloth tunics	do	2.74	4.15	5.60	7.00	7.75	9.83
Guinees, 2013—2	Cut pieces	10.05	11.40	12.70	14.05	14.70	16.70
Indienne, B. 24	Pieces	4.00	4.80	5.60	6.40	6.80	8.00
Guinea blue, 2013–2	Cut pieces	9.28	10.60	11.95	13.25	13.95	15.90
Guinea, B. 8	Piece	2.21	2.50	2.75	3.05	3.20	3.60
Grey domestic, B. 16	Cut pieces	2.25	2.90	3.55	4.20	4.55	5.55
Siamoise, B. 22	Piece	11.38	12.90	13.45	16.00	16.75	19.05
Rayures:							
Bangalas, B. 123	do	6.32	7.65	9.00	10.30	11.00	13.00
Bleues, B. 124	do	6.95	8.35	9.80	11.20	11.95	14.05
Pagne (loin cloths):							
B. 98	Pair	4.20	4.70	5.25	5.75	6.00	6.80
B. 110—111	do	4.40	4.90	5.40	5.90	6.15	6.90
B. 33	do	4.53	5.10	5.70	6.25	6.50	7.35
Stripes Yoruba, B. 114	Piece	4.53	5.20	5.85	6.50	6.85	7.80
Indigo mottles, B. 9	do	5.58	6.90	8.25	9.55	10.20	12.25
Americani, B. 1	Cut pieces	4.60	6.00	7.45	8.85	9.60	11.70
Blue and white checks, C. 4	Piece	5.27	6.15	7.00	7.85	8.30	9.60
Blue prints C. 9574	do	4.74	5.50	6.25	7.05	7.40	8.60
Stripes, B. 12	do	5.70	7.05	8.35	9.70	10.35	12.35
Stripes, Yoruba, B. 113	do	3.90	4.55	5.20	5.90	6.20	7.20
Damas rouge, B. 3531	do	5.16	5.90	6.70	7.45	7.85	9.00
Beads.							
Pipiottés cornalines	Kilogram	1.85	2.50	3.15	3.80	4.15	5.15
Olive noir a serpent, 6589	do	3.40	4.15	4.95	5.70	6.10	7.25
Olivettes blanc de lait, 6752	do	2.85	3.60	4.40	5.15	5.55	6.70
Olives rubis a piston, 6588	do	4.30	4.95	5.60	6.25	6.60	7.60
Rocailles blanc mat, 1565—6781	do	.90	1.55	2.20	2.90	3.20	4.20
Rocailles noir défilé	do	.90	1.70	2.50	3.30	3.70	4.90
Rond cornaline, 6598	do	5.25	5.05	5.85	6.65	7.05	8.25
Madunga Dunga	do	2.30	3.00	3.65	4.35	4.70	5.75
Olivettes:							
B. 1	do	2.15	2.85	3.50	4.20	4.55	5.60
B. 2	do	2.15	2.85	3.50	4.20	4.35	5.60
Rond ciel, 6598	do	4.25	5.05	5.85	6.65	7.05	8.25
Rond jaune, 6598	do	4.00	4.80	5.60	6.40	6.80	8.00
Rond cornaline, 6593	do	2.55	3.35	4.15	4.95	5.35	6.55
Rond ciel, 6604	do	3.05	3.85	4.65	5.45	5.85	7.05
Fond noir et ciel:							
1708	do	5.90	6.55	7.20	7.90	8.20	9.20
1706	do	4.40	5.05	5.70	6.35	6.70	7.70
Rocailles blanches, G. 017	do	.85	1.55	2.20	2.90	3.25	4.30
Petites perles blanches, Cg. 20—1	do	1.05	1.75	2.40	3.10	3.45	4.50
Blanches, Cg. 14—11	do	.80	1.50	2.15	2.85	3.20	4.25
Bleues ciel, Cg. 15—11	do	1.10	1.80	2.50	3.15	3.50	4.55
Roses, Cg. 16—11	do	1.25	1.90	2.55	3.20	3.55	4.53

*1 franc=19.3 cents.

Prices paid by the Kongo Free State in Antwerp, etc.—Continued.

Articles.	Unit.	Price per unit at—					
		Antwerp.	Lower Kongo.	Caravan road.	Stanley Pool.	Stations accessible to river steamers.	Other stations.
Beads—Continued.		*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**	*Fcs.**
Rouges, Go. No. 24	Kilogram	2.44	3.15	3.90	4.65	5.00	6.15
Olives, G. No. 22—23	do	2.10	2.85	3.55	4.30	4.70	5.80
De Verre, 2021—2	Box	4.15	4.25	4.30	4.40	4.45	4.55
Olivettes cornalines, 6590—91	Kilogram	2.50	3.30	4.10	4.90	5.30	6.50
Olives aubis a 100 perles	do	3.10	3.90	4.70	5.50	5.90	7.10
Rondes blanches, C. 603	do	2.75	3.40	4.05	4.70	5.05	6.05
Perles, G. No. 11	do	.52	1.10	1.65	2.20	2.50	3.35
13636, No. 2, C. 52	Double mass.	7.25	7.45	7.65	7.90	8.00	8.30
Couleur 32, Gr. 00	Kilogram	1.45	2.10	2.75	3.45	3.75	4.75
Corneoles couleur, 60 Gr. 00	do	2.20	2.85	3.50	4.15	4.50	5.50
Roses couleur, 23 Gr. 00	do	1.30	1.95	2.60	3.25	3.60	4.60
Blanches couleur, 20 Gr. 00	do	.98	1.65	2.30	2.95	3.30	4.30
Rayées couleur, 45—46, Gr. 2	do	1.20	1.85	2.50	3.15	3.50	4.50
Roses couleur, 23 Gr. 00	do	1.45	2.10	2.75	3.45	3.75	4.75
Parasols.							
1033	Dozen	20.24	24.70	29.10	33.55	35.80	42.45
1034	do	16.44	20.90	25.30	29.75	32.00	38.65
1035	do	15.18	19.60	24.05	28.50	30.70	37.40
Hardware.							
Bells:							
No. 1	Gross	8.00	8.80	9.60	10.40	10.80	12.00
P. S	do	18.50	19.90	21.25	22.65	23.30	25.40
No. 30	do	5.00	5.40	5.80	6.20	6.40	7.00
Spoons	Dozen	.74	.95	1.15	1.35	1.50	1.80
Forks	do	.74	.95	1.10	1.30	1.40	1.70
Mirrors, 13. [1]	Gross	14.00	18.65	23.30	27.95	30.10	37.29
Tacks, copper:							
No. 05	1,000	2.65	3.00	3.30	3.65	3.80	4.30
No. 06	do	3.00	3.40	3.80	4.00	4.20	5.00
No. 07	do	3.45	3.95	4.45	4.95	5.20	6.95
Small bells:							
No. 1	Gross	6.50	7.15	7.80	8.45	8.80	9.85
No. 3	do	13.00	14.10	15.15	16.25	16.80	18.40
Knives:							
7 inches long	Dozen	8.50	9.45	10.40	11.35	11.85	13.25
5 inches long	do	2.50	2.80	3.30	3.80	4.05	4.80
Tacks:							
Gilded, 01	1,000	2.00	2.15	2.30	2.45	2.55	2.80
Gilded, 02	do	2.10	2.30	2.50	2.70	2.80	3.05
Sundries.							
Matches	Gross	1.40	1.60	1.80	2.00	2.10	2.35
Fez	Dozen	10.25	10.65	11.00	11.40	11.60	12.15
Without gland	do	9.25	9.75	10.25	10.75	11.00	11.75
For children	do	9.00	9.50	10.00	10.50	10.75	11.50
For children, without gland	do						

*1 franc=19.3 cents.

R. DORSEY MOHUN,
Commercial Agent at Boma.

WASHINGTON, D. C., *May 1, 1895.*

THE NORWEGIAN FISHERIES.

THE COD FISHERIES.

In the Loffoden district, the cod fisheries commenced, as usual, in the middle of January, but, although the weather was favorable, the catch was small, and at the end of February, it only amounted to about 5,000,000 fish. The quality, with few exceptions, was poor and the fish singularly small. The prospects seemed unpromising, but from the first week of March, the situation changed. Rich shoals of fish touched at all the principal stations at the Loffoden coast, and during the month not less than 25,800,000 cod were brought ashore, which quantity, up to the 20th of April, was increased by 7,500,000 more, making a total catch for the district of 38,100,000. Up to the same date, the other different stations (Finmarken excepted), gave a return of 15,700,000—a total catch for the past season of 53,800,000 cod, the largest on record for many years.

Of this quantity, 11,000,000 were prepared (dried) for stockfish, besides 16,000 hectoliters of medicinal oil, 18,000 hectoliters of liver for other kinds of oil, and 58,000 hectoliters of fish roe.

I give herewith a table showing the quantities of fish and other products (relating to the Loffoden districts only) for the years 1890–1895:

Year.	Number of cod.	Production of steam refined cod-liver oil.	Livers for other kinds of oil.	Fish roe.
		*Hectoliters.**	*Hectoliters.**	*Hectoliters.**
1895 (April 20)	38,100,000	12,250	10,500	42,000
1894 (April 21)	28,000,000	12,230	13,900	24,300
1893 (April 14)	26,700,000	18,550	31,200	31,100
1892 (April 14)	16,300,000	8,100	23,000	17,400
1891 (April 14)	21,000,000	18,200	22,700	19,600

* 1 liquid hectoliter=26.417 gallons; 1 dry hectoliter=2.838 bushels.

As to the number of fish caught, the result of this season's fisheries is the largest hitherto reported, but, on the other hand, the yield of liver and medicinal oil was small. This disproportion is owing to the smallness and meagerness of the livers, of which from 800 to 1,300 were required for one hectoliter, against 300 or 400 when the fish are in fat condition.

The total value of the Loffoden catch is estimated at 7,000,000 kroner ($1,876,000), distributed among 32,500 fishermen, leaving an average profit to each of 215 kroner ($57.62).

Owing to the small size and meagerness of the fish, the prices ruled low, and can not be quoted higher than 9 to 11 kroner ($2.41 to $2.95) per 100, being 26 to 30 per cent lower than in 1894.

The cod fishery in Finmarken has commenced, but up to this date, the catch has only amounted to 1,000,000 fish, the quality being as inferior as those caught at Loffoden.

HERRING FISHERY.

The winter herring fishery in this district (Bergen) closed at the end of March with a total result of 105,000 barrels (against 84,000 in 1894), whereof at least 20,000 barrels were sold fresh and used for bait in the cod fisheries in the north, where this article was greatly wanted, owing to the complete failure of past years' herring catch in these districts. The size, as well as quality, was good, and the average price—$2 per barrel—left some profit.

F. G. GADE,
Consul.

BERGEN, *April 25, 1895.*

SILK PRODUCTION OF THE WORLD.

THE SILK INDUSTRY OF SPAIN.

The cultivation and manufacture of silk in Valencia, which dates to the time of the Moors, was a flourishing trade for this province up to the middle of this century, when an epidemic among the silkworms threatened to destroy the entire European silk culture. This epidemic first broke out in France and Italy, and to such an extent that, in order to keep their silk factories running, the French had to come to Spain for their raw material, for a law prohibited the exportation of the cocoons from Spain. At that time, the manufacture of silk in Spain was carried on in a very primitive manner, which induced French manufacturers to establish themselves here, with modern machinery, which gave a decided impulse, though of short duration, to the Spanish silk trade, for a few years later the same disease an ong the silkworms spread over Spain, reducing this prosperous trade so much as to be entirely insufficient for the demand. Thanks to the studies of M. Pasteur in regard to this malady and its prevention, the French were soon in a position to reestablish their lost trade and went on improving it considerably, while the Spaniards, discouraged by their various and numerous losses, not only neglected its cultivation but began cutting down their mulberry trees and planting orange trees and vineyards instead, which apparently yielded them a better income at that time.

It is an established fact now that M. Pasteur has saved and secured the future of silk cultivation in Europe. Every country dedicated to this trade has since then visibly increased its production, except Spain, where the farmers kept dreaming about fabulous profits from oranges and wine, which articles have since dwindled down to an unremunerative trade; but to return now to the improvement of their silk culture requires more than they possess in money and patience, for the planting and raising of the mulberry trees are not done so quickly as they were cut down. Under this anomalous state of affairs as regards silk culture, French manufacturers in Spain have also to suffer.

The production of cocoons in Spain in 1894 amounted to 1,100,000 kilograms (2,425,060 pounds), of which 670,000 kilograms (1,477,082 pounds) were bought by French manufacturers in Spain, 155,000 kilograms (341,823 pounds) by French exporters, 250,000 kilograms (551,150 pounds) by Spanish manufacturers, and the balance, 60,005 pounds, was consumed for other purposes.

The 670,000 kilograms (1,477,082 pounds) of cocoons spun by Frenchmen in Spain yielded 60,000 kilograms (122,275 pounds) of silk, of which 50,000 kilograms (110,230 pounds) went to Lyons and 10,000 kilograms (22,046 pounds) were sold in Spain, while the Spanish spinners sell all their silk in Spain.

SILK PRODUCTION OF THE WORLD.

The silk production of the world was as follows during the years under consideration:

Year.	Quantity.	
	Kilograms.	*Pounds.*
1889	11,382,000	25,092,757
1890	11,441,000	25,222,828
1891	12,159,000	26,805,731
1892	12,635,000	27,855,121
1893	13,675,000	30,147,905

The production in the different countries was as follows:

Countries.	1889.	1890.	1891.	1892.	1893.
Europe.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Italy	6,349,248	7,590,438	7,076,766	6,536,639	8,783,126
France	1,362,443	1,434,590	1,247,804	1,410,944	1,878,319
Austria	588,628	597,446	619,493	485,012	535,718
Spain	143,299	182,982	198,414	158,731	169,754
Total	8,443,618	9,803,856	9,142,476	8,591,326	11,366,917
Asia.					
Turkey, Greece, Syria, etc.	1,404,330	1,563,061	1,241,190	1,563,061	1,997,368
Central Asia and Caucasus	154,322	176,368	154,322	143,299	187,392
China	9,942,746	8,736,830	9,162,318	10,705,538	10,044,158
Japan	4,684,775	4,448,883	6,600,572	6,300,747	5,919,352
India	462,966	493,830	504,853	551,150	632,720
Total	16,649,139	15,418,972	17,663,255	19,263,795	18,780,988
Grand total	25,092,757	25,222,828	26,805,731	27,855,121	30,147,905

Not only has M. Pasteur saved the silk culture in Europe, but, through a superior system of his, a greater production of cocoons is obtained. Thus, the French crop increased from 7,680,169 kilograms (16,931,701 pounds) of cocoons in 1892, to 9,987,110 kilograms (22,017,583 pounds) in 1893; Italy shows an increase from an average crop of 38,635,000 kilograms (85,-

174,721 pounds) during the last ten years to 47,624,398 kilograms (104,992,545 pounds) in 1893; and Austria produced in the same year 2,973,000 kilograms (6,554,276 pounds).

California, as well as many of our Southern States, must offer a favorable climate and soil for the cultivation of both the mulberry tree and the silkworm.

THEODOR MERTENS,
Consular Agent.

GRAO, *May 10, 1895.*

SILK CULTURE IN SOUTHERN CHINA.

[From an article sent to the Swiss Government by an expert in the silk business, residing at Canton, China; translated by Consul Germain, of Zurich.]

GROWING OF THE MULBERRY TREES.

The mulberry grown in southern China is different from that grown in northern China, Japan, and Europe, in so far as in southern China, no trees but only bushes are grown, which, after having been pruned in winter, become densely covered with foliage in the spring, resembling very much our varieties of dwarf willows. In the silk-growing districts, large fields planted in this manner can be seen, and the Chinese cultivate these with great care, in order to make them produce the supply of mulberry leaves necessary for the seven silk crops harvested usually, beginning with the month of March and ending with October.

SILKWORMS AND KINDS OF SEED.

There are so many different varieties of silkworms in China that, in order to make an elaborate report, a special study of them would be necessary. I restrict myself, therefore, to name only the two kinds mostly grown in the south, *i. e.*, "Taysaam" and "Lusijut." The eggs of these varieties being left over from the preceding year, are washed in March in tepid water, and by this process made to break their shells, but the cocoons obtained from this crop are only used for the propagation of new seed, and the worms subsequently obtained furnish the first silk crop.

However, only a part of these cocoons are spun for the production of silk. Another portion is always used for the production of new seed, the "Lusijut" kind being used for the succeeding crops of the same year, while the "Taysaam" can only be used for the first crop of the following year. The "Taysaam" cocoons are greater and of better quality than the "Lusijut" cocoons, but the seeds of the former are so delicate that it would hurt the brood if they were used as often for reproduction as are the "Lusijut."

In general, the silk production is attended to here in the same primitive way as has been done for centuries past. Before the hatching of the worms, the seeds are covered with mulberry leaves, so that the worms, as soon as hatched, can find immediate food, and the thickly-covered leaves are then placed on bamboo sticks and put on the frames, from which they are only removed for cleansing and feeding purposes. In the first period, the young worms receive fine-cut leaves two or three times per day; later on, according to their growth, coarser cut leaves. About eight days thereafter, they drop into their first sleep, and then again after eight days. This process is repeated four times. Six days after the fourth sleep they stop growing, and are then of a yellowish and almost transparent color.

They are then put upon frames, where a cellular texture gives them a favorable place to work their cocoons. This very simple apparatus prevents almost completely the spinning of

so-called "cocoons-doubles." A great deal more could be said on the further treatment of the silkworms to that period; on their diseases and the influence of temperature and weather on their development, but it is rather difficult to obtain reliable reports, and a personal study on the spot would offer so many difficulties that I must restrict myself to the above.

In general, these points will not differ much from the interesting reports of the Swiss vice-consul at Yokohama, Dr. P. Ritter, on the silk culture in Japan, although the Japanese have of late years made considerable improvement and progress, while the Chinese, who are opposed to all innovations, are still pegging away at their old, primitive methods.

The silkworm needs twenty-four to thirty hours to make a cocoon, and three days thereafter, the butterfly breaks out of the pointed end of the cocoon. Subsequently, it lays its eggs and dies. If the cocoon is to be used for silk spinning in lieu of production of new seed, the butterfly is killed with charcoal gas in order to prevent the breaking of the cocoon. This latter process lasts about twelve hours.

EXTENT AND TIME OF CROPS.

On this point, nothing definite can be said, as it depends entirely on the weather, which varies from one year to another. Long-continued rains or a sudden falling off in temperature are very injurious to the silkworms, and as these changes occur mostly in the months of April, May, and June, it fully goes to explain the inferior quality and color, as well as the unclean threads of the product of the first three crops. Even the fourth crop, in July, is frequently damaged by heavy rain storms, while the fifth and sixth crops grow usually under very favorable circumstances, and consequently, as a rule, furnish a superior product.

The total silk crop is estimated at about 45,000 to 55,000 piculs (about 6,600,000 pounds) per annum, and, segregated, is as follows:

First crop, end of April, 4,000 to 5,000 piculs;* second crop, end of May, 10,000 to 12,000 piculs; third crop, end of June, 6,000 to 7,000 piculs; fourth crop, end of July, 6,000 to 7,000 piculs; fifth crop, end of August, 12,000 to 15,000 piculs; sixth crop, end of September, 5,000 to 6,000 piculs; seventh crop, end of October, 2,000 to 3,000 piculs. Of this production, the inland manufacturers consume about two-thirds, or 30,000 piculs, partly for the manufacture of silk dress goods, partly for silk piece goods and silk embroideries for export, while the remaining 20,000 piculs of raw silks are exported to Europe, America, and the Indies in about the following proportion: Europe, 14,000 piculs; America, 3,000 piculs; and the Indies, 3,000 piculs. These estimates, of course, vary every year, according to the demand in the different markets.

PROCESS AND INSTALLATION FOR SPINNING.

First, let me say that, here in the south, only four different kinds of silk are spun, the greater part of which consists of white and the smaller portion of yellow silk. These four varieties are "Tsatlées," "Soie long guindre," "Filature à vapeur," and "Filature à feu." Up to about twenty years ago, "Tsatlées" and "long guindres" were the only kinds produced in the south. The difference between these consists only in the "guindrage." The hand-spinning apparatus, on which they are spun, is the most primitive contrivance people can imagine, and it is evident that in this manner no fine product can be obtained. In former years, every family manufactured "Tsatlées" and "long guindres" of the cocoons produced by them; in late years, however, they do better by bringing their cocoons to market, for sale to filature spinners. The principal defects of these varieties are the irregularities in the *titre*, very much "duvet," and insufficient elasticity, drawbacks which are due also to the condition of the cocoons.

Instead of spinning a certain *titre* of this silk, which could easily be obtained by reeling the same number of cocoons together, the "Tsatlées" spinners take simply a handful of

*1 picul=133⅓ pounds.

cocoons, and, of course, no regular thread can be obtained in this manner. It is furthermore very difficult to keep the water in the *bassine*, an ordinary earthen pot, at the even temperature necessary with a little coal fire, and as cocoons put in hot water would cause too much loss, the spinner winds the silk simply in lukewarm water, by which procedure the silk loses in quality and elasticity, and, later on, when being boiled (*décreusage*) shows an unusual high loss. These different defects were the cause why Canton "Tsatlées" and "long guindres" became more and more neglected, and that the demand successively increased for the better filatures. The first *filandres*, on the European model, were established in 1870, and the best proof for the increasing preference of "filatures à vapeur" is that their number has increased in about eighty different establishments, some of which have 800 *bassines*. This variety being spun entirely on the European method, it would be useless to go into details. I will only remark that in these *filandres*, any desired *titre* of 9 to 11 and 18 to 22 deniers can be spun, and that the quality, elasticity, and cleanliness of this product is also far superior to that of the first-named kind, and consequently commands higher figures.

The "filatures à feu" differ from the "filatures à vapeur" in that they are the product of home industry, or of small establishments, without steam engines. This product is purchased by jobbers, assorted according to fineness and quality, to make it available for export, and then brought to market. The spinning system is about the same, with this difference, however, that the reel is moved by the spinner through a treadwheel, while the water in the *bassine* is kept heated as much as possible by a coal fire beneath it. Some of these "filatures à feu" are almost as good as the "filatures à vapeur." In general, however, the difference is easily detected. As in the United States, only small reels are used. A part of these filatures are spun for special purposes, as the so-called "courts-guindres." "Tsatlées" and "long guindres" are also again reeled on small reels for the same market, and sold as "Redévidées" (rereeled).

Some years ago, I made an improvement in the *dévidage* of the two latter kinds, by adding a better apparatus for the *croisure*, and these products are in special demand in New York. Still, there is much room for improvements of every kind. The Chinese, however, are not inclined to pay fair prices for new inventions and systems, and besides, they recognize neither patent nor trade-mark. China offers no paying field for the talent of inventors.

EXPORTS DECLARED FOR THE UNITED STATES.

QUARTER ENDING MARCH 31, 1895.

ALGERIA.

[Report by Consul Grellet.]

Algiers.

Cork wood	$1,489.57
Curiosities (Algerian)	75.27
Goatskins	27,753.76
Rough sticks	437.87
Wool	225.04
Wine	264.41
All others	1,050.30
Total	31,296.22

Oran.

African fiber	11,959.38
Goatskins	3,985.61
Total	15,944.99

Total from Algeria.

African fiber	$11,959.38
Cork wood	1,489.57
Curiosities (Algerian)	75.27
Goatskins	31,739.37
Rough sticks	437.87
Wool	225.04
Wine	264.41
All others	1,050.30
Total	47,241.21
Total for same quarter in 1894	7,164.00
Increase	40,077.21

AUSTRIA-HUNGARY.

[Report by Consul-General Judd.]

Budapest.

Beans and lentils	41,838.12
Books and papers	204.42

Fruits, dried, etc	$1,944.04
Furniture	2,012.30
Glassware	2,686.75
Herbs, roots, and leaves	1,860.61
Leather and skins	4,424.42
Mineral water	4,396.98
Oils, paints, and colors	243.17
Porcelain and pottery	392.68
Potash	5,667.37
Pulp	4,772.60
Umbrella fixtures and sticks	6,009.63
Wines and liquors	11,472.96
Miscellaneous	417.13
Total	88,343.18
Total for same quarter in 1894	132,749.33
Decrease	44,406.15

Prague.

Art, works of	670.71
Artificial flowers	8,210.71
Beans and lentils	107,249.72
Bed feathers	12,412.15
Beer	20,452.09
Beet-root sugar	100,277.25
Books and papers	4,322.30
Buttons	9,768.87
Carlsbad Sprudel salt	23,229.09
Cloth and woolen goods	11,594.43
Cotton goods	469.12
Cutlery	1,832.40
Drugs and chemicals	790.16
Embroideries and laces	5,454.22
Fruits, dried, etc	682.61
Furniture	527.46
Glassware	42,502.76
Gloves	32,515.61
Graphite	1,517.16
Gum and glue	2,853.23
Hair, human	11,860.65
Hops and lupulin	919.24
Jewelry and precious stones	370.37
Leather and skins	717.00
Linen goods	5,794.21
Metal ware	1,559.32
Mineral water	289.95
Musical instruments	13,112.10
Paper goods	1,486.45
Porcelain and pottery	118,322.15
Potash	2,161.18
Pulp	20,871.84
Silks and velvets	822.95
Toys	415.87
Wool	804.98
Miscellaneous	2,104.49
Total	568,944.80
Total for same quarter in 1894	382,105.17
Increase	186,839.63

Reichenberg.

Artificial flowers	1,182.10
Buttons	38,742.28
Cloth and woolen goods	6,545.78
Cutlery	$10,608.64
Glassware	112,205.20
Jewelry and precious stones	223,074.77
Linen goods	86,516 61
Metal ware	2,903.58
Musical instruments	334.95
Oils, paints, and colors	396.23
Paper goods	1,555.06
Porcelain and pottery	26,525.25
Sparterie	1,396.82
Toys	695.21
Miscellaneous	1,994.04
Total	514,406.52
Total for same quarter in 1894	183,908.13
Increase	330,498.39

Trieste.

Beans and lentils	2,744.41
Cedars	4,398.13
Cuttle bones	2,124.21
Drugs and chemicals	1,051.30
Fruits, dried, etc	3,458.41
Gum and glue	11,515.78
Herbs, roots, and leaves	5,562.17
Insect powder and flowers	25,726.34
Leather and skins	153,797.73
Oils, paints, and colors	4,207.31
Polishing earth	969.85
Shell and bone ware	941.32
Sponges	1,050.40
White lead	1,083.10
Wines and liquors	760.11
Wooden ware	680.17
Wool	337.15
Miscellaneous	3,254.72
Total	223,662.61
Total for same quarter in 1894	148,109.35
Increase	75,553.26

Vienna.

Albumen	1,727.19
Amber	1,965.88
Art, works of	5,959.36
Artificial flowers	9,895.21
Baskets and basket ware	9,378.38
Beans and lentils	22,277.87
Black lead	590.28
Books and papers	1,028 45
Brushes and bristles	2,049.89
Buttons	114,176.64
Carbons	5,507.97
Carpets	2,206.70
Cloth and woolen goods	34,083.34
Cotton goods	16,840.90
Dresses	530.06
Drugs and chemicals	88,542.53
Fans	81,111.34
Felt	902.94
Furniture	8,089.52
Glassware	18,761.98
Gloves	20,895.72
Hats and caps	3,869.37

Jet trimmings	$1,772.29
Jewelry and precious stones	341.94
Leather and skins	17,371.40
Leather goods	8,859.57
Linen goods	41,084.98
Machines and parts of	949.85
Magnesite	5,776.17
Meerschaum, crude	3,964.55
Metal ware	17,935.21
Musical instruments	949.20
Ozocerite and ceresin	1,075.21
Paper goods	5,616.21
Porcelain and pottery	4,311.44
Scientific instruments	976.84
Shell and bone ware	23,699.00
Shoes and boots	1,009.36
Silks and velvets	24,112.37
Smokers' articles	11,138.77
Stained glass	1,490.60
Sugar, refined	4,331.53
Toys	268.30
Umbrella fixtures and sticks	63,637.11
Wax ware	1,149.45
Wines and liquors	5,607.10
Wooden ware	2,846.45
Miscellaneous	3,513.99
Total	703,580.41
Total for same quarter in 1894	388,332.43
Increase	315,247.98

Total from Austria-Hungary.

Albumen	1,727.19
Amber	1,965.88
Art, works of	6,630.07
Artificial flowers	19,288.02
Baskets and basket ware	9,378.38
Beans and lentils	174,110.12
Bed feathers	12,412.15
Beer	20,452.09
Beet-root sugar	100,277.25
Black lead	590.28
Books and papers	5,555.17
Brushes and bristles	2,049.89
Buttons	162,687.97
Carbons	5,507.97
Carlsbad Sprudel salt	23,229.09
Carpets	2,206.70
Cedars	4,398.13
Cloth and woolen goods	52,223.55
Cotton goods	17,310.02
Cutlery	12,441.04
Cuttle bones	2,124.21
Dresses	530.06
Drugs and chemicals	90,383.99
Embroideries and laces	5,454.22
Fans	81,111.34
Felt	902.94
Fruits, dried, etc	6,085.06
Furniture	10,629.28
Glassware	176,156.69
Gloves	53,411.33
Graphite	1,517.16
Gum and glue	14,369.01
Hair, human	$11,860.65
Hats and caps	3,269.37
Herbs, roots, and leaves	7,422.78
Hops and lupulin	919.24
Insect powder and flowers	25,726.34
Jet trimmings	1,772.29
Jewelry and precious stones	223,717.08
Leather and skins	176,310.55
Leather goods	8,859.57
Linen goods	133,395.80
Machines and parts of	949.85
Magnesite	5,776.17
Meerschaum, crude	3,964.55
Metal ware	22,398.11
Mineral water	4,686.93
Musical instruments	14,396.25
Oils, paints, and colors	4,846.71
Ozocerite and ceresin	1,075.21
Paper goods	8,657.72
Polishing earth	969.85
Porcelain and pottery	149,351.52
Potash	7,828.55
Pulp	25,644.44
Scientific instruments	976.84
Shell and bone ware	24,640.32
Shoes and boots	1,009.36
Silks and velvets	24,935.32
Smokers' articles	11,138.77
Sparterie	1,396.82
Sponges	1,050.40
Stained glass	1,490.60
Sugar, refined	4,331.53
Toys	1,379.38
Umbrella fixtures and sticks	69,646.74
Wax ware	1,149.45
White lead	1,083.10
Wines and liquors	17,840.17
Wooden ware	3,526.62
Wool	1,142.13
Miscellaneous	11,284.37
Total	2,098,937.52
Total for same quarter in 1894	1,235,204.41
Increase	863,733.11

BELGIUM.

[Report by Consul Roosevelt.]

Antwerp.

Bleaching powders	4,954.17
Cement	35,661.62
Chicory	5,174.55
Coffee	22,199.93
Cows	3,860.00
Diamonds	176,512.76
Furniture	1,902.16
Gin	424.69
Glass (plate)	12,444.67
Glycerin	14,104.25
Hair, animal	16,652.81
India rubber	6,468.60
Lead	184,419.34
Linoleum	10,470.13
Meat extract	68,854.91

Oil	$2,287.93
Oil paintings	385.00
Paper and books	13,396.76
Phosphates	4,153.76
Potash	11,754.04
Rags and paper stock	20,421.79
Rails	6,496.76
Skins (rabbit, sheep, and other)	81,184.77
Soda	8,312.61
Sugar (beet)	206,676.71
Sulphur	929.10
Tar	1,357.46
Vegetable fibers (flax, hemp, and tow)	9,388.40
Wool	125,340.31
Wool grease	4,006.91
Sundries	32,528.32
Total	1,092,125.26
Total for same quarter in 1894	940,449.32
Increase	151,675.94

Brussels.

Aniline colors	1,'26.80
Bagging	866.45
Braids and button stock	77.01
Braids (hat beads) and jet on wire	10,057.65
Brass	200.63
Cement	136,284.92
Church regalia and ornaments	761.39
Combs	68.18
Corsets	38,725.26
Earthenware	399.45
Enamel	1,637.21
Fur (refuse)	2,059.48
Glass:	
Plate	127,453.21
Window	71,383.46
Other	1,330.47
Gloves	147,457.68
Glue and glue stock	646.66
Granite	194.26
Hats	2,699.22
Hatters' fur	4,300.47
Horn strips	693.60
Household goods and personal effects	1,015.85
Lace goods	44,046.40
Leather	2,879.06
Linen goods	91,600.36
Marble	6,711.27
Medicinal plants	1,042.88
Musical instruments	1,110.79
Naphthalene	3,653.31
Oil	550.07
Oil paintings	1,219.18
Paper and books	4,155.87
Phosphates	10,580.45
Rags and paper stock	7,996.17
Rattans	660.06
Scales and weights	121.30
Skins (rabbit, sheep, and other)	43,519.07
Soda, prussiate of	10,153.15
Stones (ground flint)	533.36
Vegetable fibers (flax, hemp, and tow)	11,625.24
Vegetables, preserved	1,087.94
Wine	185.53
Woolen goods	$1,794.69
Sundries	44,836.01
Total	830,201.47
Total for same quarter in 1894	573,396.71
Increase	256,804.76

Ghent.

Albumen	248.99
Baskets	139.66
Braids and button stock	955.74
Braids (hat beads) and jet on wire	782.57
Cement	8,004.48
Chicory root	16,369.28
Cordage	530.63
Glass	323.85
Hatters' fur	19,041.31
Lace goods	15,254.19
Linen goods	65,144.53
Matches	311.45
Oil	525.07
Plants	4,219.43
Rags and paper stock	79,790.01
Silk shoe laces	1,604.77
Skins (rabbit, sheep, and other)	23,490.23
Sugar (beet)	78,592.53
Thread	649.07
Vegetable fibers (flax, hemp, and tow)	70,017.26
Yarns (crochet) cotton	430.73
Total	386,425.78
Total for same quarter in 1894	216,087.95
Increase	170,337.83

Liege.

Arsenic	7,029.63
Chronograph	131.43
Fancy goods	506.24
Firearms	65,968.69
Glassware	32,336.22
Hones	1,613.49
Indigo	5,843.63
Lamp burners	1,600.86
Paper and books	2,451.43
Potash	1,832.20
Rags and paper stock	459.75
Superphosphate	10,367.24
Wool	88,227.37
Woolen goods	166,426.37
Yarns (woolen)	1,196.57
Zinc	2,946.23
Sundries	816.47
Straw goods	9,647.55
Total	399,401.37
Total for same quarter in 1894	150,063.72
Increase	249,337.65

Total from Belgium.

Albumen	248.99
Aniline colors	1,826.80
Arsenic	7,029.63
Bagging	866.45
Baskets	139.66

Bleaching powders	$4,954.17
Braids and button stock	1,032.75
Braids (hat beads) and jet on wire	10,840.22
Brass	200.63
Cement	179,951.02
Chicory	5,174.55
Chicory root	16,369.28
Chronograph	131.43
Church regalia and ornaments	761.39
Coffee	22,199.93
Combs	68.18
Cordage	530.63
Corsets	38,725.26
Cows	3,860.00
Diamonds	176,512.76
Earthenware	399.45
Enamel	1,637.21
Fancy goods	506.26
Firearms	65,968.69
Fur (refuse)	2,059.48
Furniture	1,902.16
Gin	424.69
Glass:	
Plate	129,897.88
Window	71,383.46
Other	1,654.32
Glassware	32,336.22
Gloves	147,457.68
Glue and glue stock	646.66
Glycerin	14,104.25
Granite	194.26
Hair, animal	16,652.81
Hats	2,699.22
Hatters' fur	23,341.78
Hones	1,613.49
Horn strips	693.60
Household goods and personal effects	1,015.85
India rubber	6,468.60
Indigo	5,843.63
Lace goods	59,300.59
Lamp burners	1,600.86
Lead	184,419.34
Leather	2,879.06
Linen goods	156,744.89
Linoleum	10,470.19
Marble	6,721.27
Matches	311.45
Meat extract	68,254.91
Medicinal plants	1,042.88
Musical instruments	1,110.79
Naphthalene	3,653.31
Oil	3,363.07
Oil paintings	1,604.18
Paper and books	20,004.06
Phosphates	14.734.19
Plants	4,219.43
Potash	13,586.24
Rags and paper stock	108,667.72
Rails	6,496.76
Rattans	660.06
Scales and weights	121.30
Silk shoe laces	1,604.77
Skins (rabbit, sheep, and other)	148,194.07
Soda	8,312.61
Prussiate of	10,153.15
Stones (ground flint)	533.36
Sugar (beet)	$285,269.24
Sulphur	929.10
Superphosphate	10,367.24
Tar	1,357.46
Thread	649.07
Vegetable fibers (flax, hemp, and tow)	91,030.90
Vegetables, preserved	1,087.94
Wine	185.53
Wool	213,567.68
Wool grease	4,006.91
Woolen goods	168,221.06
Yarns:	
Crochet cotton	430.73
Woolen	1,196.57
Zinc	2,946.23
Sundries	78,180.80
Straw goods	9,647.55
Total	2,708,153.88
Total for same quarter in 1894	1,879,997.70
Increase	828,156.18

BRITISH INDIA.

[Report by Consul-General Polk.]

Bombay.

Art ware (brass, copper, and silver)	2,006.69
Carpets	3,195.32
Condiments	729.79
Cotton	1,655.51
Curios	2,410.51
Dress goods and other cotton fabrics	1,472.44
Drugs	110.93
Furniture	1,476.41
Jewelry	6,254.15
Mother-of-pearl shells	7,677.87
Oil	2,160.13
Silk piece goods	545.69
Seeds, other than linseed	18.49
Miscellaneous	781.25
Total	30,495.18

Calcutta.

Drugs	1,476,769.00
Fishing rods	4,902.00
Gunny:	
Bags	342,722.50
Cloth	503,911.50
Hides	220,004.00
Jute	562,180.40
Butts and rejections	645,527.00
Linseed	157,635.00
Mica	24,208.00
Oil	1,367.50
Paper stock	1,442.50
Rubber	2,510.75
Saltpeter	104,200.45
Silk piece goods	575.00
Skins	718,405.50
Tea	5,688.00
Woolen goods	64.30
Miscellaneous	12,769.00
Total	4,984,882.40

Madras.

Drugs	$94,952.40
Skins	630,899.35
Total	725,851.75

Rangoon.

Curios	370.75
Drugs	10,531,75
Rubber	2,446.75
Total	13,349.25

Total from British India.

Art ware (brass, copper, and silver)	2,006.69
Carpets	3,195.32
Condiments	729.79
Cotton	1,655.51
Curios	2,781.26
Dress goods and other cotton fabrics	6,472.44
Drugs	1,582,364.08
Fishing rods	4,902.00
Furniture	1,476.41
Gunny:	
Bags	542,722.50
Cloth	503,911.50
Hides	220,004.00
Jewelry	6,254.15
Jute	562,180.40
Butts and rejections	645,527.00
Linseed	157,635.00
Mica	24,208.00
Mother-of-pearl shells	7,677.87
Oil	3,527.63
Paper stock	1,442.50
Rubber	4,957.50
Saltpeter	104.200.45
Silk piece goods	1,120.69
Skins	1,349,304.85
Seeds, other than linseed	18.49
Tea	5,688.00
Woolen goods	64.30
Miscellaneous	13,550.25
Total	5,754,678.58

BRITISH WEST INDIES.

Antigua.

Logwood	360.00

St. Christopher.

Muscovado sugar (2,493,049 pounds)	48,079.88
Skins (3,675 pounds)	1,039.00
Salt (3,048 bushels)	246.34
Total	49,365.22

St. Vincent.

Arrowroot	1,203.84

Turks Island.

Sponge	480.91
Salt (150,566 bushels)	11,106.60
Total	11,587.51

CANADA.

BRITISH COLUMBIA.

Vancouver.

[Report by Consul Peterson.]

Animals for breeding purposes	$175.00
Coal*	188,173.00
Fish, fresh and salted:	
Halibut	22,277.00
Sturgeon	3,079.00
Furs	2,475 00
Hides and skins	9,838 00
Laths and shingles	17,679.00
Logs and timber	1,100.00
Lumber:	
Cedar	1,039.00
Fir	29,142.00
Spruce	5,670.00
Machinery	1,445.00
Ore:	
Iron	2,244.00
Gold	2,969.00
Silver	168,405.00
Lead	50,303 00
Returned United States products	1,445.00
Shooks, staves, headings, and bolts	493.00
Miscellaneous	80.00
Total	508,031.00
Total for same quarter in 1894	165,044.00
Increase	342,987.00

Victoria.

[Report by Consul Roberts.]

Furs, hides, and skins	29,806.35
Fresh fish	11,062.13
Gold bullion	38,982.03
Household goods and personal effects	820.00
Indian curios	516.00
Liquors	2,194.17
Oat hulls	311.60
Prepared opium	682.50
Returned American goods	2,584.35
Sandstone	67.30
Silk cloth	121.38
Tea	823.50
Tobacco	3,568.26
Miscellaneous	440.80
Total	91,980.42
Total for same quarter in 1894	65,293.66
Increase	26,686.76

Nanaimo.

Coal	586,259.75
Household effects	1,000.00
Total	587,259.75
Total from British Columbia	1,187,271 17

*Coal declared at the agency of Union.

MARITIME PROVINCES AND NEWFOUNDLAND.

[Report by Consul-General Ingraham.]

Charlottetown, P. E. I.

Agricultural products:	
Potatoes	$4,283.20
Turnips	26.50
Animals (horses)	1,040.50
Emigrants' effects	52.00
Fish:	
Canned	1,429.80
Fresh	535.36
Furs, hides, and skins	898.10
Total	8,265.46
Total for same quarter in 1894	10,960.64
Decrease	2,695.18

Halifax, N. S.

Agricultural products (potatoes)	5,702.98
Emigrants' effects	860.00
Fish:	
Canned	7,502.75
Dry	57,465.89
Fresh	3,764.47
Oil	1,839.41
Pickled	37,830.28
Sounds	85.00
Furs, hides, and skins	3,700.25
Ivory nuts	2,074.34
Goods returned to United States	28,964.50
Junk	1,809.03
Skates	202.50
Tea	142.57
Wood:	
Laths and lumber	2,130.00
Pulp	2,497.32
Total	156,571.29
Total for same quarter in 1894	179,099.64
Decrease	22,528.35

Moncton, N. B.

Agricultural products:	
Hay	110.90
Potatoes	232.50
Bark	175.00
Extract	539.05
Emigrants' effects	550.50
Fish:	
Canned	536.00
Fresh	69,167.93
Fruit and canned fruit	738.00
Furs, hides, and skins	3,191.95
Sundries	134.56
Wood:	
Laths and lumber	38,860.48
Sulphite fiber	13,645.01
Total	127,980.98
Total for same quarter in 1894	120,118.81
Increase	7,862.17

Pictou, N. S.

Cloths and woolen goods	$4,533.67
Coal	1,971.70
Emigrants' effects	150.50
Fish:	
Canned	168.00
Dry	260.60
Fresh	1,447.00
Furs, hides, and skins	1,796.06
Machinery	2,259.60
Sundries	326.18
Wire, copper	225.50
Wood (laths and lumber)	242.50
Total	13,381.31
Total for same quarter in 1894	8,276,34
Increase	5,104.97

St. John, N. B.

Agricultural products (potatoes)	6,540.50
Animals (horses)	62.50
Bark	5,665.00
Cotton waste and rags	591.66
Dulce	291.08
Emigrants' effects	9,847.50
Fish:	
Canned	196.38
Dry	20,608.68
Furs, hides, and skins	1,812.85
Goods returned to United States	52,836.31
Junk	132.50
Liquors	529.50
Medicinal preparations	167.00
Molasses	373.76
Minerals (cement)	287.00
Granite	253.00
Lime	2,401.70
Paper stock	545.00
Sundries	634.47
Tea	528.50
Wood:	
Laths and lumber	199,095.23
Fire	563.50
Ships' knees	495.73
Total	304,459.35
Total for same quarter in 1894	241,729.35
Increase	62,730.00

St. John's, N. F.

Fish.	
Dry	5,471.48
Fresh	1,602.50
Oil	21,304.58
Pickled	4,907.60
Furs, hides, and skins	2,130.64
Sulphate of iron	21,899.50
Copper regulus	12,214.70
Total	69,531.00
Total for same quarter in 1894	71,549.98
Decrease	2,018.98

St. Stephen, N. B.

Agricultural products:	
Hay	$524.00
Potatoes	65.00
Turnips	1,286.00
Animals:	
Fowls and geese	4,768.00
Horses	225.00
Bark	6,990.00
Coal	6,280.00
Emigrants' effects	2,662.00
Fish:	
Dry	88.00
Oil	230.00
Furs, hides, and skins	2,591.00
Goods returned to United States	139.00
Sundries	7.00
Wood (laths and lumber)	5,227.00
Total	31,082.00
Total for same quarter in 1894	30,394.47
Increase	687.53

Windsor, N. S.

Coal	390.00
Emigrants' effects	517.00
Furs, hides, and skins	340.00
Gum (spruce)	577.00
Machinery	175.00
Manganese	1,458.00
Wood:	
Laths and lumber	3,703.00
Fire	275.00
Ships' knees	98.00
Wool	300.00
Total	7,833.00
Total for same quarter in 1894	12,463.00
Decrease	4,630.00

Woodstock, N. B.

Agricultural products:	
Hay	617.75
Oats and buckwheat	269.50
Potatoes	5,472.35
Animals (sheep and lambs)	374.00
Bark	4,800.00
Emigrants' effects	1,925.00
Liquors	40.00
Wood (laths and lumber)	13,252.35
Total	26,650.95
Total for same quarter in 1894	34,250.37
Decrease	7,599.42

Yarmouth, N. S.

Agricultural products (apples)	989.75
Animals (horses)	128.00
Cotton waste and rags	553.00
Emigrants' effects	100.50
Fish:	
Canned	252.50
Dry	6,763.51
Fish—Continued.	
Fresh	$4,362.00
Pickled	3,830.00
Hooks	138.50
Fruit and canned fruit	152.50
Goods returned to United States	987.50
Sundries	5.88
Wood:	
Laths and lumber	17,631.01
Fire	1,080.00
Pulp	853.00
Total	37,827.65
Total for same quarter in 1894	58,224.47
Decrease	20,396.82

Total from maritime provinces and Newfoundland.

Agricultural products:	
Apples	989.75
Hay	1,251.75
Oats and buckwheat	269.50
Potatoes	22,296.53
Turnips	1,312.50
Animals:	
Fowls and geese	4,768.00
Horses	1,456.00
Sheep and lambs	374.00
Bark	17,630.00
Extract	539.05
Cloths and woolen goods	4,533.67
Coal	8,641.70
Cotton waste and rags	1,144.66
Dulce	291.08
Emigrants' effects	16,665.00
Fish:	
Canned	10,185.43
Dry	90,658.16
Fresh	80,879.26
Oil	23,373.99
Pickled	46,567.88
Sounds	85.00
Hooks	138.50
Fruit and canned fruit	890.50
Furs, hides, and skins	16,460.85
Ivory nuts	2,074.34
Goods returned to United States	82,927.31
Gum (spruce)	577.00
Junk	1,941.53
Liquors	569.50
Machinery	2,434.60
Manganese	1,458.00
Medicinal preparations	167.00
Molasses	373.76
Minerals (cement)	287.00
Granite	253.00
Lime	2,401.70
Paper stock	545.00
Skates	202.50
Sulphate of iron	21,899.50
Copper regulus	12,214.70
Sundries	1,108.69
Tea	671.07
Wire copper	225.50

Wood:	
Laths and lumber	$280,041.57
Fire	1,918.50
Ships' knees	593.73
Pulp	3,350.32
Sulphite fiber	13,645.01
Wool	300.00
Total	783,582.99
Total for same quarter in 1894	767,067.07
Increase	16,515.92

PROVINCE OF ONTARIO.

[Report by Consul-General Riley.]

Amherstburg.

Barley	231.67
Grain (oats, rye, wheat, and buckwheat)	1,642.61
Lumber	3,162.83
Seeds	2,264.93
Shooks, staves, headings, and bolts	11,658.95
Total	18,960.99
Total for same quarter in 1894	6,767.80
Increase	12,193.19

Belleville.

Apples (evaporated and green)	12,945.00
Barley	3,225.89
Beans	546.53
Chemical products	260.00
Emigrants' effects	2,971.00
Furs	1,356.24
Grain (oats, rye, wheat, and buckwheat)	200.00
Hay and straw	2,269.00
Hides and skins	6,607.00
Horses	3,299.25
Laths and shingles	163.62
Lumber	528.95
Onions and turnips	400.00
Pease (whole and split)	26,096.60
Potatoes	390.00
Returned United States products	56.00
Seeds	21.00
Whisky	24.00
Wool	56.00
All other articles	986.03
Total	62,402.11
Total for same quarter in 1894	57,302.80
Increase	5,099.31

Brockville.

Emigrants' effects	760.00
Hay and straw	399.00
Hides and skins	15,569.00
Horses	110.00
Laths and shingles	545.15
Lumber	2,504.82
Returned United States products	$270.00
Wood (pulp)	120.00
Total	20,277.97
Total for same quarter in 1894	9,361.61
Increase	10,916.36

Chatham.

Barley	1,621.00
Beans	100,091.36
Eggs	9,520.75
Emigrants' effects	3,014.00
Grain (oats, rye, wheat, and buckwheat)	1,681.25
Hides and skins	7,362.47
Lumber	1,229.44
Returned United States products	209.85
Sheep and lambs	1,193.75
Shooks, staves, headings, and bolts	20,364.95
All other articles	1,554.13
Total	147,842.95
Total for same quarter in 1894	79,152.11
Increase	68,690.84

Clifton.

Barley	2,440.00
Chair stock	483.80
Fish (fresh and salted)	146.00
Furs	187.25
Haircloth	23,766.00
Hides and skins	731.97
Horses	410.00
Laths and shingles	494.55
Sheep and lambs	292.50
Shooks, staves, headings, and bolts	981.75
Whisky	510.40
Wood (pulp)	10,008.29
All other articles	1,315.60
Total	41,768.11
Total for same quarter in 1894	26,435.26
Increase	15,332.85

Collingwood.

Animals for breeding purposes	40.00
Apples (evaporated and green)	1,839.50
Barley	39,473.87
Chair stock	2,103.50
Eggs	6,864.60
Emigrants' effects	2,766.00
Fish (fresh and salted)	9,946.99
Hides and skins	2,200.00
Laths and shingles	3,739.47
Lumber	13,645.93
Pease (whole and split)	862.00
Potatoes	24,344.74
Pulp	1,250.45
Returned United States products	395.73
Seeds	6,380.49
Wood (pulp)	1,332.00
All other articles	760.00
Total	117,945.27
Total for same quarter in 1894	31,714.97
Increase	86,230.30

Fort Erie.

Apples (evaporated and green)	$764.50
Beans	394.30
Emigrants' effects	800.00
Fish (fresh and salted)	1,600.00
Hides and skins	466.94
Horses	5,520.00
Potatoes	799.55
Seeds	1,446.00
Sheep and lambs	1,306.75
All other articles	110.00
Total	13,208.04
Total for same quarter in 1894	4,447.00
Increase	8,761.04

Goderich.

Barley	1,925.10
Emigrants' effects	1,471.00
Flax and tow	25,181.14
Horses	7,372.00
Lumber	578.10
Rags and paper stock	139.50
Sheep and lambs	3,425.20
Wool	3,660.60
All other articles	325.70
Total	44,078.34
Total for same quarter in 1894	18,936.46
Increase	25,141.88

Guelph.

Animals for breeding purposes	685.00
Apples (evaporated and green)	940.25
Barley	640.00
Emigrants' effects	2,977.95
Flax and tow	854.93
Grain (oats, rye, wheat, and buckwheat)	1,587.60
Hides and skins	1,728.00
Lumber	498.50
Potatoes	10,127.65
Seeds	92.80
Sheep and lambs	1,073.80
Wool	2,141.16
All other articles	1,484.55
Total	24,832.19
Total for same quarter in 1894	26,933.11
Decrease	2,100.93

Hamilton.

Animals for breeding purposes	180.00
Apples (evaporated and green)	3,683.75
Barley	5,074.84
Eggs	14,641.24
Emigrants' effects	15,053.05
Fertilizers	664.00
Hides and skins	39,330.27
Horses	4,185.00
Ivory buttons and nuts	9,607.04
Laths and shingles	1,866.75
Lumber	1,532.35
Machinery	$2,910.73
Onions and turnips	352.00
Potatoes	2,283.00
Rags and paper stock	2,126.90
Returned United States products	270.60
Seeds	3,996.27
Sheep and lambs	8,942.75
Tea	6,906.46
Whisky	2,140.00
Wool	225,081.78
All other articles	2,184.99
Total	353,013.77
Total for same quarter in 1894	91,567.08
Increase	261,446.69

Kingston.

Apples (evaporated and green)	292.00
Emigrants' effects	5,992.50
Fish (fresh and salted)	1,497.80
Hay and straw	4,851.50
Hides and skins	12,257.87
Horses	224.00
Lumber	882.40
Mica (crude and cut)	100.00
Pease (whole and split)	1,822.65
Potatoes	940.00
Wool	362.58
Total	29,223.30
Total for same quarter in 1894	21,374.37
Increase	7,848.93

London.

Animals for breeding purposes	2,772.50
Apples (evaporated and green)	1,580.30
Barley	243.20
Beans	692.58
Beef and lamb	532.20
Eggs	456.96
Emigrants' effects	9,000.00
Fertilizers	1,394.54
Flax and tow	12,246.00
Hides and skins	23,395.99
Horses	7,480.50
Lumber	3,480.60
Potatoes	502.95
Poultry (dressed and undressed)	2,000.00
Rags and paper stock	1,441.42
Returned United States products	96.70
Seeds	1,652.47
Sheep and lambs	4,293.60
Tea	6,692.65
Tobacco	1,480.09
Wax (paraffin)	21,104.00
Whisky	806.50
Wool	4,385.68
All other articles	2,543.71
Total	110,274.20
Total for same quarter in 1894	71,181.50
Increase	39,092.70

Morrisburgh.

Emigrants' effects	$2,076.50
Hay and straw	5,739.00
Hides and skins	2,459.50
Horses	332.50
Lumber	1,330.00
Returned United States products	695.00
All other articles	198.20
Total	12,830.70
Total for same quarter in 1894	7,378.10
Increase	5,452.60

Orillia.

Bark	1,200.00
Emigrants' effects	558.00
Furs	3,489.63
Laths and shingles	10,331.90
Lumber	63,874.53
Nickel matte	150,463.83
All other articles	1,217.96
Total	231,135.85
Total for same quarter in 1894	50,006.53
Increase	181,129.32

Ottawa.

Emigrants' effects	3,385.30
Hay and straw	5,264.26
Hides and skins	18,488.97
Horses	1,679.50
Laths and shingles	6,477.70
Lumber	351,751.30
In bond for export	3,585.69
Mica (crude and cut)	6,818.43
Pulp	17,570.57
Returned United States products	415.15
Wool	11,932.20
All other articles	3,887.68
Total	431,256.75
Total for same quarter in 1894	585,952.17
Decrease	154,695.42

Palmerston.

Barley	5,086.67
Eggs	3,320.08
Emigrants' effects	2,916.00
Fish (fresh and salted)	16,440.00
Flax and tow	5,216.67
Grain (oats, rye, wheat, and buckwheat)	520.00
Lumber	4,442.72
Potatoes	459.00
Rags and paper stock	1,130.00
Sheep and lambs	4,164.75
Wood (pulp)	4,181.00
All other articles	349.75
Total	48,226.64
Total for same quarter in 1894	58,854.68
Decrease	10,628.04

Port Hope.

Apples (evaporated and green)	$3,566.75
Barley	35,867.18
Beans	3,559.97
Eggs	1,612.80
Emigrants' effects	985.00
Fish (fresh and salted)	532.00
Grain (oats, rye, wheat, and buckwheat)	1,142.37
Hay and straw	250.00
Hides and skins	8,042.00
Horses	4,187.50
Pease (whole and split)	31,598.41
Potatoes	2,098.88
Returned United States products	716.49
Seeds	6,100.68
Wool	8,268.00
All other articles	601.58
Total	109,129.61
Total for same quarter in 1894	88,704.88
Increase	20,424.73

Port Rowan.

Apples (evaporated and green)	240.00
Barley	1,520.00
Emigrants' effects	834.00
Horses	1,707.50
Lumber	947.50
Rags and paper stock	906.99
Sheep and lambs	2,294.60
Total	8,450.59
Total for same quarter in 1894	15,799.19
Decrease	7,348.60

Port Sarnia.

Animals for breeding purposes	2,364.75
Apples (evaporated and green)	301.00
Emigrants' effects	2,830.00
Flax and tow	4,844.00
Hay and straw	144.00
Hides and skins	5,111.82
Horses	3,748.48
Paintings, oil	1,000.00
Seeds	442.99
Sheep and lambs	475.00
Whisky	153.50
Total	21,415.54
Total for same quarter in 1894	14,869.19
Increase	6,546.35

Port Stanley and St. Thomas.

Apples (evaporated and green)	425.00
Beans	28,528.15
Emigrants' effects	3,400.00
Flax and tow	4,893.00
Horses	2,800.50
Lumber	2,065.11
Potatoes	3,642.22
Sheep and lambs	10,096.12

Shooks, staves, headings, and bolts...	$10,474.83
All other articles.....	2,162.82
Total.....	68,487.75
Total for same quarter in 1894..	59,154.46
Increase.....	9,333.29

Prescott.

Emigrants' effects.....	1,058.50
Hides and skins.....	1,967.91
Horses.....	3,418.00
Laths and shingles.....	263.90
Lumber.....	790.62
Potatoes.....	9,693.72
Whisky.....	300.00
Wool.....	2,950.00
All other articles.....	642.21
Total.....	21,084.86
Total for same quarter in 1894..	211,055.40
Decrease.....	189,970.54

Sault Ste. Marie.

Emigrants' effects.....	235.00
Furs.....	136.00
Horses.....	4,023.00
Lumber.....	140.74
Total.....	4,534.74
Total for same quarter in 1894..	2,645.45
Increase.....	1,889.29

Stratford.

Animals for breeding purposes.....	175.00
Apples (evaporated and green).....	300.00
Barley.....	20,533.58
Beef and lamb.....	1,219.50
Emigrants' effects.....	2,717.00
Flax and tow.....	64,327.86
Grain (oats, rye, wheat, and buckwheat).....	658.00
Hay and straw.....	1,160.00
Oil cake.....	21,920.37
Rags and paper stock.....	1,196.47
Seeds.....	603.00
Sheep and lambs.....	6,120.80
All other articles.....	222.00
Total.....	121,153.58
Total for same quarter in 1894..	56,290.17
Increase.....	64,863.41

Toronto.

Animals for breeding purposes.....	494.00
Apples (evaporated and green).....	5,863.82
Barley.....	102,526.57
Beans.....	1,676.88
Books.....	1,491.27
Chemical products.....	10,795.10
Copper, silver, and tin.....	2,637.52
Eggs.....	13,048.10
Emigrants' effects.....	32,735.00
Fertilizers.....	5,735.12
Fish (fresh and salted).....	$348.28
Grain (oats, rye, wheat, and buckwheat).....	2,025.60
Hay and straw.....	350.00
Hides and skins.....	23,507.73
Horses.....	11,081.00
Jewelers' sweepings.....	2,719.00
Lumber.....	5,872.09
Machinery.....	711.80
Onions and turnips.....	1,498.00
Pease (whole and split).....	8,850.66
Potatoes.....	5,601.90
Rags and paper stock.....	4,067.85
Seeds.....	29,420.07
Sheep and lambs.....	1,300.00
Tea.....	6,727.80
Tobacco.....	1,695.23
Whisky.....	4,406.86
Wool.....	54,331.82
All other articles.....	5,270.94
Total.....	346,790.01
Total for same quarter in 1894..	196,443.46
Increase.....	150,346.55

Wallaceburgh.

Barley.....	478.60
Emigrants' effects.....	343.50
Seeds.....	2,393.62
Sheep and lambs.....	1,127.30
Shooks, staves, headings, and bolts...	23,013.17
Total.....	27,356.19
Total for same quarter in 1894..	18,648.73
Increase.....	8,707.46

Windsor.

Barley.....	228.29
Beans.....	54,758.50
Emigrants' effects.....	7,909.00
Fish (fresh and salted).....	1,760.22
Hides and skins.....	378.00
Horses.....	9,005.00
Lumber.....	4,032.00
Natural gas.....	11,300.00
Potatoes.....	157.08
Rags and paper stock.....	175.00
Seeds.....	215.00
Shooks, staves, headings, and bolts...	21,751.74
Tobacco.....	981.28
Whisky.....	63,366.42
Wool.....	7,323.75
All other articles.....	4,280.57
Total.....	187,621.85
Total for same quarter in 1894..	79,824.09
Increase.....	107,797.70

Total from Province of Ontario.

Animals for breeding purposes.....	6,710.25
Apples (evaporated and green).....	32,741.87
Bark.....	1,200.00
Barley.....	221,116.46

Beans	$190,248.27
Beef and lamb	1,751.70
Books	1,491.27
Chair stock	2,587.30
Chemical products	11,055.10
Copper, silver, and tin	2,637.52
Eggs	49,464.53
Emigrants' effects	106,788.30
Fertilizers	7,793.66
Fish (fresh and salted)	32,277.29
Flax and tow	117,563.60
Furs	5,169.12
Grain (oats, rye, wheat, and buckwheat)	9.457.43
Haircloth	23,766.00
Hay and straw	20,426.76
Hides and skins	169,605.44
Horses	70,583.73
Ivory buttons and nuts	9,607.04
Jewelers' sweepings	2,719.00
Laths and shingles	23,883.04
Lumber	463,290.59
In bond for export	3,585.69
Machinery	3,622.53
Mica (crude and cut)	6,918.43
Nickel matte	150,463.83
Natural gas	11,300.00
Oil cake	21,920.37
Onions and turnips	2,250.00
Paintings, oil	1,000.00
Pease (whole and split)	69,230.32
Potatoes	61,040.69
Poultry (dressed and undressed)	2,000.00
Pulp	18,821.02
Rags and paper stock	11,184.13
Returned United States products	3,125.52
Seeds	55,029.32
Sheep and lambs	46,106.92
Shooks, staves, headings, and bolts	88,245.39
Tea	20,326.91
Tobacco	4,156.60
Wax (paraffin)	21,104.00
Whisky	71,707.68
Wood (pulp)	15,641.29
Wool	320,493.57
All other articles	30,098.42
Total	2,623,291.90
Total for same quarter in 1894	1,884,800.57
Increase	738,491.33

PROVINCE OF QUEBEC.

[Report by Consul-General Anderson.]

Coaticook.

Animals:	
Breeding	390.00
Horses	2,170.00
Articles, the growth, produce, and manufacture of the United States, returned	2,011.00
Bark (hemlock)	400.00
Hay	304.00
Hides and skins	1,402.00
Household and personal effects	$2,634.00
Ore (copper)	6,199 00
Stone	101.00
Sugar	211.00
Sundries	100.00
Wood and manufactures of:	
Lumber	1,842.00
Railway ties	1,285.00
All other	13,480.00
Wool	308.00
Total	32,837.00
Total for same quarter in 1894	35,956.00
Decrease	3,119.00

Gaspé Basin.

Wood and manufactures of (shingles)	636.00
Total for same quarter in 1894	
Increase	636.00

Montreal.

Animals (horses)	60,411.25
Articles, the growth, produce, and manufacture of the United States, returned	14,766.08
Books	131.25
Clothing	580.32
Chemicals, drugs, dyes, etc.:	
Ashes (pot)	646.09
Bone black	5,894.78
Dyes	5,244.87
Gas liquor	2,329.32
Powder (washing)	125.56
Sirup of turpentine	600.74
Cartridges	32,600.27
Clays and mineral substances:	
Apatite, ground	510.00
Asbestos	21,793.09
Cotton waste	1,349.39
Eggs	19,034.76
Fish (salt)	2,087.50
Fruits (dried apples)	1,000.00
Furs and fur skins:	
Furs—	
Raw	13,447.18
Cuttings	2,045.78
Dressed	3,609.72
All other	1,648.28
Hair (horse)	370.17
Hay	2,216.50
Hides and skins:	
Calfskins	5,076.28
Goatskins	910.32
All other	1,073.80
Household and personal effects	31,960.45
Haircloth	303.79
Iron and steel	2,697.80
Jewelers' sweepings	1,088.00
Junk (rags)	1,765.04
Leather	176.09
Paper stock	5,117.80
Paper, wall	397.46
Paintings	62,002.98

Paint	$396.50
Platinum	149.60
Statuary	340.00
Spirits, distilled	1,102.72
Sundries	1,854.38
Tobacco:	
Leaf	64,703.77
All other	70.00
Tweeds	3,333.56
Vegetables:	
Onions	8,537.59
Potatoes	281.67
Wood and manufactures of:	
Lumber	58,084.19
Pulp wood	113.75
All other	317.00
Wool	38,376.14
Woolen felt	1,161.92
Total	483,835.50
Total for same quarter in 1894	163,774.74
Increase	320,060.76

Quebec.

Animals (horses)	100.00
Articles, the growth, produce, and manufacture of the United States, returned	2,570.00
Fish, fresh and salt:	
Fresh	442.00
Salt	1,863.18
Furs and fur skins:	
Furs—	
Raw	450.02
Cuttings	162.96
Dressed	922.35
Hair (plastering)	389.84
Household and personal effects	3,560.00
Paper stock	876.38
Sugar	9,886.95
Sundries	981.81
Sea grass	1,608.00
Vegetables (potatoes)	2,255.50
Wood and manufactures of (lumber)	37,512.71
Wool	500.00
Total	64,081.68
Total for same quarter in 1894	48,787.55
Increase	15,294.13

Sherbrooke.

Animals:	
Horses	990.00
All other	845.00
Articles, the growth, produce, and manufacture of the United States, returned	1,534.46
Bark (hemlock)	480.00
Chemicals, drugs, dyes, etc	6,173.87
Clays and mineral substances (asbestos	19,795.00
Hay	235.00
Hides and skins:	
Calfskins	588.34
Sheepskins	103.50
Household and personal effects	$3,135.19
Ores:	
Sulphur	16,155.62
Chrome	15,462.80
Pyrites	1,249 81
Sundries	111.45
Vegetables (potatoes)	3.00
Wood and manufactures of:	
Lumber	66,256.62
Pulp wood	39,643.75
Railway ties	6,797.04
Clapboards	8,116.00
Shingles	268.00
Wood pulp	1,115.60
All other	2,589.62
Woolens	9,185.85
Total	200,835.52
Total for same quarter in 1894	155,077.03
Increase	45,758.49

St. Hyacinthe.

Animals (horses)	2,390.00
Articles, the growth, produce, and manufacture of the United States, returned	385.92
Eggs	19,899.65
Hay	7,134.00
Household and personal effects	5,960.00
Straw	228.00
Wood and manufactures of:	
Lumber	6,833.29
Shingles	244.30
Total	42,475.16
Total for same quarter in 1894	34,664.15
Increase	7,811.01

St. Johns.

Animals (horses)	11,672.00
Breadstuffs	8.55
Hay	14,374.00
Hides and skins	508.09
Household and personal effects	5,125.00
Straw	560.00
Sundries	430.50
Vegetables	240.00
Wood and manufactures of (shingles)	221.70
Total	33,139.84
Total for same quarter in 1894	24,593.50
Increase	8,546.34

Stanbridge.

Animals (horses)	3,970.00
Hay	1,326.00
Hides and skins	2,200.00
Household and personal effects	1,789.00
Sundries	70.00
Wood and manufactures of:	
Lumber	322.79

Wood and manufactures of—Cont'd.	
Railway ties	$10,937.50
All other	35.20
Total	20,650.49
Total for same quarter in 1894	14,616.87
Increase	6,033.62

Three Rivers.

Bark (hemlock)	9,126.00
Chemicals, drugs, dyes, etc	225.00
Fish (fresh)	20.00
Furs (raw)	1,024.67
Hay	5,245.25
Household and personal effects	4,526.85
Iron and steel	1,804.00
Vegetables (potatoes)	286.00
Wood and manufactures of:	
Lumber	13,095.87
Pulp wood	450.00
Railway ties	4,776.00
Shingles	6,196.78
Wood pulp	35,112.92
All other	1,138.56
Total	83,027.90
Total for same quarter in 1894	30,050.04
Increase	52,977.86

Total from Province of Quebec.

Animals:	
Breeding	390.00
Horses	81,703.25
All other	845.00
Articles, the growth, produce, and manufacture of the United States, returned	21,267.46
Bark (hemlock)	10,006.00
Books	131.25
Breadstuffs	8.55
Clothing	580.32
Chemicals, drugs, dyes, etc.:	
Ashes (pot)	646.09
Bone black	5,894.78
Dyes	5,244.87
Gas liquor	2,329.32
Powder (washing)	125.56
Sirup of turpentine	600.74
All other	6,398.87
Cartridges	32,600.27
Clays and mineral substances:	
Apatite, ground	510.00
Asbestos	41,588.09
Cotton waste	1,349.39
Eggs	38,334.41
Fish:	
Fresh	462.00
Salt	3,950.68
Fruits (dried apples)	1,000.00
Furs and fur skins:	
Furs—	
Raw	14,921.85
Cuttings	2,208.74
Dressed	4,532.07
All other	1,648.28
Hair:	
Plastering	$389.84
Horse	370.17
Hay	30,834.75
Hides and skins:	
Calfskins	5,664.62
Goatskins	910.32
Sheepskins	103.50
All other	5,183.89
Household and personal effects	58,690.49
Haircloth	303.79
Iron and steel	4,501.80
Jewelers' sweepings	1,088.00
Junk (rags)	1,765.04
Leather	176.09
Ores:	
Copper	6,199.00
Sulphur	16,155.62
Chrome	15,462.80
Pyrites	1,249.81
Paper stock	5,994.18
Paper, wall	397.46
Paintings	62,002.98
Paint	396.50
Platinum	149.60
Statuary	340.00
Spirits, distilled	1,102.72
Straw	788.00
Stone	101.00
Sugar	10,097.95
Sundries	3,548.14
Sea grass	1,608.00
Tobacco:	
Leaf	64,703.77
All other	70.00
Tweeds	3,333.56
Vegetables:	
Onions	8,537.59
Potatoes	2,826.17
All other	240.00
Wood and manufactures of:	
Lumber	183,947.47
Pulp wood	40,207.50
Railway ties	23,795.54
Clapboards	8,116.00
Shingles	7,566.78
Wood pulp	36,228.52
All other	17,560.38
Wool	39,184.14
Woolens	9,185.85
Woolen felt	1,161.92
Total	961,519.09
Total for same quarter in 1894	507,519.88
Increase	453,999.21

FRENCH NORTH AMERICAN POSSESSIONS.

St. Pierre (Miquelon).

[Report by Commercial Agent Steer.]

Dry codfish in drums in bond	7,811.32
Salt herring	505.00
Total	8,316.32

CAPE VERDE ISLANDS.

[Report by Consular-Agent Ginmarães.]

Goatskins	$2,667.94

CEYLON.

[Report by Consul Morey.]

Colombo.

Cinnamon	2,501.00
Cocoa	9,272.00
Cocoanuts:	
Desiccated	8,485.00
Oil	132,279.00
Coffee	4,547.00
Coir (fiber)	290.00
Copra	2,910.00
Curios	65.00
Medicinal seeds	5,504.00
Plumbago	16,450.00
Tea	26,131.00
Total	208,434.00
Total for same quarter in 1894	189,487.00
Increase	18,947.00

Galle.

Citronella oil	28,417.00
Cocoanuts (oil)	11,378.00
Total	39,795.00
Total for same quarter in 1894	43,016.00
Decrease	3,221.00

Total from Ceylon.

Cinnamon	2,501.00
Citronella oil	28,417.00
Cocoa	9,272.00
Cocoanuts:	
Desiccated	8,485.00
Oil	143,657.00
Coffee	4,547.00
Coir (fiber)	290.00
Copra	2,910.00
Curios	65.00
Medicinal seeds	5,504.00
Plumbago	16,450.00
Tea	26,131.00
Total	248,229.00
Total for same quarter in 1894	232,503.00
Increase	15,726.00

CUBA.

[Report by Vice-Consul-General Springer.]

Baracoa.

Bananas	21,358.25
Cocoanuts	14,835.63
Cocoanut oil	10,919.84
Total	47,113.72

Cardenas.

Beeswax	$4,412.36
Sugar	1,486,448.90
Total	1,490,861.26

Cienfuegos.

Beeswax	1,108.68
Hides	540.60
Honey	7,406.38
Lancewood spars	355.11
Molasses	5,412.88
Sugar	2,501,650.41
Tobacco (leaf)	118,349.65
Total	2,634,823.17

Trinidad de Cuba.

Sugar	177,559.14

Zaza.

Beeswax	2,129.15
Cigars and cigarettes	88.00
Cedar wood	8,101.39
Dagame spars	1.20
Honey	1,521.28
Metal (old copper, brass, iron, etc.)	.84
Mahogany wood	2,925.64
Sugar	48,128.17
Total	62,895.68

Habana.

Asphaltum	3,085.11
Bones	4,494.80
Cigars and cigarettes	527,087.51
Fruit	81,695.95
Glycerin (crude)	859.51
Hides	4,553.25
Hair (raw)	648.20
Hide clippings	3,272.95
Hoofs	359.37
Horns	644.50
Honey	2,800.96
Metals (old copper, brass, iron, etc.)	8,047.21
Molasses	232,365.25
Mahogany wood	3,009.50
Palm leaf	2,480.90
Sugar	899,994.62
Sponges	12,928.13
Sundries	14,606.11
Tobacco (leaf)	2,721,386.09
Total	4,514,319.92

Matanzas.

Beeswax	319.38
Honey	2,126.77
Molasses	11,730.88
Sugar	1,982,169.08
Total	1,996,346.11

Nuevitas.

Beeswax	2,897.37
Cedar wood	2,445.45

Hides	$4,633.49
Honey	11,429.31
Molasses	18,565.90
Mahogany wood	420.26
Sugar	235,159.09
Total	275,550.87

Gibara.

Beeswax	2,307.10
Bananas	20,287.65
Cigars and cigarettes	130.00
Cedar wood	4,938.76
Dyewood	126.00
Hides	2,519.75
Honey	2,059.80
Lancewood spars	2,825.00
Lignum-vitæ	134.10
Mahogany wood	1,069.33
Sugar	31,266.57
Sirup	1,681.40
Tobacco (leaf)	4,574.33
Total	73,919.72

Sagua la Grande.

Metal (old copper, brass, iron, etc.)	326.44
Sugar	1,200,238.03
Total	1,200,564.47

San Juan de los Remedios.

Sugar	739,647.98

Santiago de Cuba.

Beeswax	8,197.28
Cedar wood	2,636.45
Cocoa	2,057.70
Hides	889.81
Honey	2,420.99
Iron ore	60,870.50
Lignum-vitæ	1,316.64
Manganese ore	3,845.00
Mahogany wood	4,225.63
Palm leaf	1,024.53
Sugar	436,869.92
Tobacco (leaf)	1,242.00
Total	525,623.45

Guantanamo.

Lignum-vitæ	1,478.92
Mahogany wood	714.09
Sugar	762,954.82
Total	765,147.83

Manzanillo.

Cedar wood	32,131.80
Lancewood spars	938.00
Mahogany wood	15,363.55
Palm leaf	400.00
Sugar	561,423.15
Total	610,256.50

Santa Cruz.

Cedar wood	$26,898.78
Honey	837.60
Logwood	36,275.00
Mahogany wood	17,260.17
Total	81,271.55

Total from Cuba.

Asphaltum	3,085.11
Beeswax	21,371.33
Bones	4,494.80
Bananas	41,645.90
Cigars and cigarettes	527,305.51
Cedar wood	77,152.63
Cocoa	2,057.70
Cocoanuts	14,835.63
Cocoanut oil	10,919.84
Dyewood	126.00
Dagame spars	1.20
Fruit	81,695.95
Glycerin (crude)	859.51
Hides	13,136.90
Hair (raw)	648.20
Hide clippings	3,272.95
Hoofs	359.37
Horns	644.50
Honey	30,603.09
Iron ore	60,870.50
Lancewood spars	4,118.11
Lignum-vitæ	2,929.66
Logwood	36,275.00
Manganese ore	3,845.00
Metal (old copper, brass, iron, etc.)	8,374.49
Molasses	268,074.91
Mahogany wood	45,015.17
Palm leaf	3,905.43
Sugar	11,063,509.81
Sponges	12,928.13
Sundries	14,606.11
Sirup	1,681.40
Tobacco (leaf)	2,835,552.07
Total	15,195,901.91

DANISH WEST INDIES.

[Report by Consul Stewart.]

St. Thomas.

Bay oil	124.32
Bay rum	1,578.54
Bay spirit	19.19
Brandy	1,365.58
Cocoa	258.06
Skins (goat)	336.89
Turtle shell	121.44
Total	3,804.02

Christiansted (St. Croix).

Anchors	50.00
Asphalt	420.00
Lead (old)	10.50
Metal (old)	63.00

Salt	$45.00
Sugar	2,155.12
Windlass and belongings	300.00
Total	3,043.62

Fredericksted (St. Croix).

Bay rum	39.27
Rum	877.70
Sugar	18,624.86
Total	19,541.83

Total from Danish West Indies.

Anchors	50.00
Asphalt	420.00
Bay oil	124.32
Bay rum	1,617.81
Bay spirit	19.19
Brandy	1,365.58
Cocoa	258.06
Lead (old)	10.50
Metal (old)	63.00
Rum	877.70
Salt	45.00
Skins (goat)	336.89
Sugar	20,779.98
Turtle shell	121.44
Windlass and belongings	300.00
Total	26,389.47

DENMARK.

[Report by Consul Kirk.]

Copenhagen.

Annotto	64.45
Books	706.31
Brandy (cherry)	457.12
Cabbage	21,468.26
Cement	1,846.85
Flint stones	460.75
Gloves	336.47
Glue	1,805.25
Hair (human)	565.48
Hides	15,887.64
Household goods	536.00
Machinery	636.59
Porcelain and terra cotta	2,673.11
Rags and old bagging	2,082.13
Rape oil	2,681.30
Rennets	5,027.47
Rope, old	3,170.85
Seeds	1,436.39
Skins (polar bear and lamb)	4,441.65
Wool	630.12
Miscellaneous	401.12
Total	67,315.31
Total for same quarter in 1894	42,934.61
Increase	24,380.70

DUTCH WEST INDIES.

[Report by Consul Spencer.]

Curaçao.

Aloes	$81.51
Divi-divi	670.58
Hides and skins	10,481.14
Sundries	109.60
Wood	8,234.00
Charges	273.99
Total	19,850.82
Total for same quarter in 1894	17,942.25
Increase	1,908.57

Buen Ayre.

Salt	3,942.95
Total for same quarter in 1894	514.65
Increase	3,428.30

Total from Dutch West Indies.

Aloes	81.51
Divi-divi	670.58
Hides and skins	10,481.14
Salt	3,942.95
Sundries	109.60
Wood	8,234.00
Charges	273.99
Total	23,793.77
Total for same quarter in 1894	18,456.90
Increase	5,336.87

FRANCE.

[Report by Consul-General Morss.]

Bordeaux (including Pau).

Argols	10,899.00
Brandy and liqueurs	23,050.00
Capsules for closing bottles	6,827.00
Cheese	565.00
Colors	2,265.00
Corks	373.00
Earthenware	153.00
Glycerin	3,643.00
Gum (gum senegal, etc.)	14,698.00
Hair (animal)	659.00
Licorice juice	2,557.00
Macaroni	10,377.00
Mineral water	4,431.00
Mustard	3,353.00
Nuts	10,617.00
Olive oil	83,694.00
Paper	27,440.00
Preserves:	
Fish (sardines, etc.)	40,223.00
Fruits and vegetables, not elsewhere specified	63,909.00
Meat	2,125.00
Prunes	50,667.00
Rags	2,381.00

Skins	$45,544.00
Sugar and confectionery	388.00
Tallow	2,029.00
Truffles	4,720.00
Vanilla	870.00
Vinegar	544.00
Wine	142,764.00
Wood ware	432.20
Wool	212,919.00
All other articles	1,618.00
Total	776,734.00
Total for same quarter in 1894	442,383.00
Increase	334,351.00

Calais (including Boulogne-sur-mer).

Cement	6,117.00
Lace	751,518.00
Velvet	640.00
Total	758,275.00

Cognac.

Books	152.00
Brandy	140,326.00
Metal manufactures	1,155.00
Paper	235.00
Rags and old rope	3,451.00
Sirup, alcoholized	774.00
Total	146,093.00
Total for same quarter in 1894	119,348.00
Increase	26,745.00

Grenoble.

Cheese	6,936.20
Gloves	428,774.00
Liqueurs	3,229.00
Paste (alimentary)	824.00
Skins (raw and dressed)	24,840.00
Tapes	369.00
Welts	325.00
Walnuts	16,874.00
Wool	3,850.00
Total	486,021.00
Total for same quarter in 1894	290,495.00
Increase	195,526.00

Havre (including Cherbourg, Honfleur, Rennes, and St. Malo).

Art, works of	8,248.00
Bric-a-brac	1,227.00
Bristles	5,728.00
Cheese	8,566.00
Chemicals	649.00
Church ornaments	1,218.00
Coffee	258,746.00
Dyestuffs	33,903.00
Feathers	2,738.00
Furniture	4,785.00
Glass	1,188.00
Gum	$1,699.00
Hair (animal)	2,501.00
India-rubber	5,905.06
Liqueurs	17,813.00
Nacker	1,420.00
Nickel	3,732.00
Ocher	940.00
Old rope and jute	2,697.00
Preserves	582.00
Rags	12,940.00
Saffron	2,856.00
Seeds, plants, and trees	16,528.00
Skins, hides, and leather	97,044.00
Tallow	11,492.00
Vegetables	1,870.00
Wool	14,101.00
All other articles	603.00
Total	521,719.00
Total for same quarter in 1894	237,832.00
Increase	283,887.00

Limoges.

China	248,679.00
Costumes	235.00
Liqueurs	244.00
Preserved vegetables	178.00
Rabbit hair	4,223.00
Truffles	5,276.00
Total	258,835.00
Total for same quarter in 1894	133,667.00
Increase	125,168.00

Lyons (including Dijon).

Argols	58,905.00
Brandy	4,531.00
Calfskins	12,681.00
Candle wicks	3,558.00
Celluloid, manufactures of	4,641.00
Church ornaments and metallic trimmings	46,213.00
Dyestuffs	7,301.00
Furs (hatters')	3,088.00
Glass (plate)	5,412.00
Glue and gelatin	11,417.00
Hair (animal)	164.00
Hardware, machinery, etc	6,713.00
Lace goods (linen)	10,099.00
Macaroni	17,041.00
Marbles for mosaics	1,709.00
Mineral water	2,436.00
Optical goods	2,220.00
Paper and pasteboard	431.00
Pipes and smokers' articles	26,670.00
Plants, living	414.00
Preserved fruits	1,129.00
Rags	667.00
Sausages	154.00
Silk:	
Combed	3,520.00
Raw	314,067.00
Spun	9,794.00

Silk—Continued.	
Waste	$38,203.00
Manufactures—	
Handkerchiefs, flags, etc	1,046.00
Piece goods	904,685.00
Pongees and foulards	607,979.00
Ribbons	31,522.00
Tulles and crepes	400,095.00
Velvets and plushes	104,889.00
Stones (precious and false)	199.00
Thread (metallic)	6,132.00
Watches	8,877.00
Wines	13,689.00
Total	2,672,293.00
Total for same quarter in 1894	1,995,531.00
Increase	676,762.00

Marseilles (including Bastia, Cette, and Toulon).

Argols	10,640.00
Candied fruit	10,991.00
Cement and sulphate of lime	9,992.00
Cork	1,000.00
Drugs	7,712.00
Gloves	1,059.00
Glue	16,715.00
Glycerin	5,112.00
Hair (cattle)	3,631.00
India-rubber	4,759.00
Macaroni, etc	8,541.00
Marble and stone	2,328.00
Mineral water	873.00
Nuts:	
Almonds	4,763.00
Walnuts	18,237.00
All other	4,941.00
Ocher	13,382.00
Oils:	
Olive	39,908.00
All other	32,947.00
Paper	5,413.00
Provisions and vegetables:	
Beans	30,376.00
Capers and olives	809.00
Dates	307.00
All other	4,330.00
Rags and old rope	16,930.00
Seeds, etc	8,653.00
Skins and hides:	
Raw	148,768.00
Tanned skins and leather	3,166.00
Soap	5,555.00
Terra alba	1,815.00
Wine	8,751.00
Wood:	
Walnut, olive	33,813.00
Sticks, handles, etc	1,127.00
Wool	51,414.00
All other articles	9,521.00
Total	528,279.00
Total for same quarter in 1894	402,672.00
Increase	125,607.00

Nantes (including Angers, Brest, and Lorient).

Books	$638.00
Nuts	3,352.00
Ocher	1,502.00
Preserves:	
Fish (sardines, etc.)	72,471.00
Meat (*foie gras*)	1,831.00
Vegetables (green pease, etc.)	2,818.00
Seeds and plants	26,496.00
Truffles	1,096.00
Wine	2,537.00
Wood ware (empty boxes)	747.00
All other articles	181.00
Total	113,669.00
Total for same quarter in 1894	49,278.00
Increase	64,391.00

Nice (including Cannes, Mentone, and Monaco).

Books, etc. (photographs)	1,119.00
Furniture and household goods	2,183.00
Earthenware	353.00
Machinery and metal manufactures	331.00
Oil:	
Almond	1,182.00
Olive	20,833.00
Perfumery	108,735.00
All other articles	370.00
Total	135,006.00
Total for same quarter in 1894	128,737.00
Increase	6,269.00

Paris.

Albumen	6,392.00
Argols	29,998.00
Art, works of (paintings, bronzes, statuary, and antiquities)	446,985.00
Blacking	26,725.00
Books, prints, engravings, etc	99,999.00
Boots, shoes, etc	581.00
Brandy and liqueurs	12,942.00
Bristles	29,865.00
Brushes	77,697.00
Buttons and trimmings	307,215.00
Carpets	4,161.00
Chemicals not elsewhere specified	29,060.00
Church ornaments and metallic trimmings	25,965.00
Clocks and watches, and materials of	27,779.00
Corsets	34,042.00
Costumes and dresses	115,692.00
Cotton goods	115,774.00
Drugs and medicinal plants	43,049.00
Dyestuffs	20,044.00
Fancy goods	312,465.00
Feathers and flowers (artificial and millinery)	1,300,823.00
Furniture and household goods	69,451.00
Glass, china, and earthen ware	84,250.00
Gloves	193,607.00
Glue and gelatin	34,461.00

Glycerin	$87,593.00
Grease, tallow, and stearin	14,669.00
Gum senegal, etc	1,015.00
Hair:	
Animal	30,749.00
Human	5,057.00
Hardware, machinery, and manufactures of metal	32,294.00
Hatters' goods, furs, rabbit skins, etc.	330,731.00
Hosiery	60,711.00
Jewelry and precious stones	374,399.00
Laces, tulles, crepes, embroideries, etc	425,585.00
Linen goods	31,082.00
Merinos, cashmeres, and miscellaneous dress goods	1,586,999.00
Mushrooms and truffles	12,485.00
Musical instruments	26,475.00
Olive oil	1,300.00
Optical and scientific instruments	65,799.00
Paints, colors, and artists' supplies	19,448 00
Paper and stationery	30,103.00
Perfumery and toilet articles	212,724.00
Pipes and smokers' articles	3,648.00
Platinum	43,100.00
Preserves:	
Fish (sardines, etc.)	3,455.00
Fruits and vegetables, not elsewhere specified	7,016.00
Meat (*foie gras*)	882.00
Rags, new cuttings, and other paper stock	44,522.00
Rubber and manufactures of	10,741.00
Seeds and plants:	
Clover	18,114.00
Other seeds and plants	48,103.00
Shawls	13,787.00
Silk:	
Raw, waste, etc	1,820.00
Manufactures of	268,362.00
Skins, hides, and leather	336,955.00
Soap grease	1,335.00
Stones (marble, millstones, tiles, cement, etc.)	6,943.00
Straw goods	5,364.00
Sugar and confectionery	18,209.00
Upholstery goods and wall paper	250,865.00
Vanillin	14,289.00
Whalebone and horn strips for corsets	38,813.00
Wine	1,070.00
Wood, wood ware, and willow ware	11,836.00
Wool	14,492.00
Woolen cloth	21,569.00
All other articles	454,158.00
Total	8,437,688.00
Total for same quarter in 1894	4,960,489.00
Increase	3,477,199.00

Rheims (*including Troyes*).

Art, works of (statuary)	2,615.00
Books (lithographic cards, and maps)	125.00
Chinaware	2,831.00
Colors	305.00
Cotton goods	$6,981.00
Corsets	317.00
Fancy goods	395.00
Glass:	
Glassware	2,189.00
Mirrors	9,005.00
Watch crystals	846 00
Window glass	3,890.00
Gloves	134,117.00
Hosiery	142,395.00
India rubber	4,662.00
Metal manufactures	1,008.00
Rabbit skins	12,506.00
Silk, shoddy or waste	854.00
Straw hats	862.00
Wall paper	797.00
Willow ware	11,121.00
Wine:	
Champagne	507,815.00
Ordinary table wine	115 00
Woolen dress goods	15,608.00
Yarns	4,042.00
All other articles	188.00
Total	865,589.00
Total for same quarter in 1894	846,250.00
Increase	19,339.00

Roubaix (*including Caudry, Dunkirk, and Lille*).

Art, works of (marble)	284.00
Carbonate of potash	5,005.00
Chemicals	14,822.00
Cotton goods	3,808.00
Dress goods	1,069,462.00
Flax, hemp, and tow	76,215.00
Glass	225.00
Hair (cow)	961.00
Laces	23,984.00
Malt	3,937.00
Marble	882.00
Rags and paper stock	363 00
Seeds:	
Beet	514.00
Clover	2,713.00
Silk (spun and waste)	5,023.00
Smokers' articles (pipes)	299.00
Soap grease	9,599.00
Thread	3,693.00
Tiles	1,999.00
Upholstery goods	115,381.00
Wool and wool waste	161,688.00
Woolen cloth:	
Billiard cloth	688.00
Other	2,288.00
Yarn:	
Jute	11,869.00
Other	25,886.00
All other articles	495.00
Total	1,542,528.00
Total for same quarter in 1894	574,998.00
Increase	967,530.00

Rouen (including Dieppe).

Bristles	$482.00
Caramel	276.00
Chalk, block	1,169.00
Chemicals	2,923.00
Flint (boulders)	3,630.00
Flour (Hungarian)	810.00
Hair (animal)	17.00
Hardware (carriage trimmings)	384.00
Lastings	2,009.00
Leather, patent	186.00
Liqueurs	402.00
Musical instruments	1,950.00
Rags and paper stock	15,487.00
Velvet (Utrecht)	6,458.00
Woolen cloth	6,873.00
Wool and silk goods	1 534.00
Total	44 390.00
Total for same quarter in 1894	*755,693.00
Decrease	711,303.00

St. Etienne.

Braids	12,769.00
Button stock	2,961.00
Cheese	4,197.00
Confectionery	1,149.00
Gloves	17,660.00
Hardware	4,744.00
Laces	56,863.00
Linings	713.00
Macaroni	745.00
Silk, manufactures of:	
Silk ribbons	121,088.00
Velvet ribbons	111,734.00
Elastic	2,955.00
Total	337,578.00
Total for same quarter in 1894	261,576.00
Increase	76,002.00

Total from France.

Albumen	6,392.00
Argols	110,442.00
Art, works of (paintings, bronzes, statuary, and antiquities)	458,132.00
Blacking	26,725.00
Books, prints, engravings, etc	102,033.00
Boots, shoes, etc	581.00
Brandy and liqueurs	203,311.00
Bristles	36,075.00
Brushes	77,697.00
Buttons and trimmings	322,945.00
Carpets	4,161.00
Chalk	1,169.00
Cheese	20,264.00
Chemicals	52,459.00
Church ornaments and metallic trimmings	79,528.00
Clocks and watches, and materials of	36,656.00
Coffee	258,746.00
Corsets	34,359.00
Costumes and dresses	$115,927.00
Cotton goods	126,563.00
Drugs and medicinal plants	56,174.00
Dyestuffs	61,248.00
Fancy goods	318,728.00
Feathers and flowers (artificial and millinery)	1,303,561.00
Flax, hemp, and tow	76,215.00
Furniture, household goods, etc	76,419.00
Glassware, mirrors, china and earthen ware	359,021.00
Gloves	775,217.00
Glue and gelatin	62,593.00
Glycerin	96,348.00
Grease, tallow, and stearin	28,190.00
Gum senegal, etc	17,412.00
Hair:	
Animal	17,213.00
Human	30,749.00
Hardware, machinery, and metal manufactures	53,258.00
Hatters' goods (furs, rabbit skins, etc.)	346,325.00
Hosiery	203,106.00
Jewelry and precious stones	374,598.00
Laces, veilings, tulles, crepes, and embroideries	1,268,049.00
Linen goods	31,082.00
Macaroni and similar preparations	37,528.00
Merinos, cashmeres, and miscellaneous dress goods	2,673,603.00
Mineral water	7,740.00
Musical instruments	28,225.00
Nuts (walnuts, almonds, etc.)	58,784.00
Ocher	15,824.00
Oils:	
Olive	145,735.00
Other	34,129.00
Optical and scientific instruments	68,019.00
Paints, colors, and artists' supplies	22,018.00
Paper and stationery	63,622.00
Perfumery and toilet articles	321,459.00
Platinum	43,100.00
Preserves:	
Fish (sardines, etc.)	116,149.00
Fruits and vegetables, not elsewhere specified	84,431.00
Meat (*foie gras*, etc.)	4,992.00
Prunes	50,667.00
Rags, paper stock, old rope, etc	99,438.00
Rubber and manufactures of	26,067.00
Seeds and plants:	
Clover	20,827.00
Other seeds and plants	100,708.00
Shawls	13,787.00
Silk:	
Raw, spun, waste, etc	373,281.00
Manufactures	2,554,995.00
Skins, hides, and leather	669,631.00
Smokers' articles (pipes, etc)	30,617.00
Soap	5,555.00
Soap grease	10,934.00
Stones (millstones, marble, tiles, cement, etc.)	35,415.00

*This total includes the exports from Calais and Boulogne-sur-mer, then agencies under Rouen.

Straw goods	$6,226.00
Sugar and confectionery	31,013.00
Truffles and mushrooms	23,577.00
Upholstery goods and wall paper	373,501.00
Vanilla and vanillin	15,159.00
Vegetables, not elsewhere specified	32,246.00
Whalebone and horn strips for corsets	38,813.00
Wine	676,741.00
Wood, wooden ware, willow ware, supply boxes, etc	60,449.00
Wool and wool waste	458,464.00
Woolen cloth	33,419.00
Yarn:	
Jute	11,869.00
Other	29,928.00
All other articles	486,141.00
Total	17,624,697.00
Total for same quarter in 1894	11,198,949.00
Increase	*6,425,748.00

GERMANY.

BERLIN AND CONSULATES THEREUNDER.

[Report by Consul-General de Kay.]

Annaberg.

Baskets	449.34
Brushes	864.63
Chemicals	927.14
Haircloth	263.35
Laces:	
Tidies	5,766.37
Curtains	19,840.94
Leather:	
Gloves	135,454.15
Dyed	5,664.07
Musical goods	627.37
Paper and paper ware	33,190.88
Toys	812.44
Trimmings	$522,221.79
Wooden ware	162.26
Total	726,244.73
Total for same quarter in 1894	263,263.86
Increase	462,980.87

Berlin.

Albums	5,255.18
Astrakhan	1,898.01
Artificial flowers	3,027.96
Baskets (cane ware)	1,675.08
Books and printed matter	19,695.83
Bristles (horsehair)	2,574.85
Buttons and crochet covers	5,400.76
Chemicals, drugs, etc	73,750.03
China ware	2,227.80
Chromos and photographs	20,361.48
Colors	81,364.62
Electric goods	2,113.50
Dress and piece goods	67,571.48
Fancy feathers	7,044.50
Glassware	4,357.30
Gloves (leather) and leather	60,932.48
Glucose, dextrin, etc	14,935.23
Human hair	1,413.60
Hides and skins	38,291.36
Horsehair cloth	19,047.85
Instruments:	
Musical	6,599.79
Scientific	19,471.60
Ivory (raw and goods)	1,565.31
Lanolin	3,312.69
Leather:	
Goods	3,444.11
Glue	2,601.58
Linen goods	28,563.54
Lithographs and engravings	603.81
Mica	1,559.48
Machinery and metal ware	11,946.05
Paintings	4,828.36

*The foregoing report of exports from France to the United States during the quarter ending March 31, 1895, shows a marked increase over the exports during the corresponding period of 1894.

The following shows the value of declared exports from the Paris consular district during the quarters ending March 31, of the five years 1891–1895, inclusive:

1891	$8,274,565
1892	8,066,713
1893	9,429,770
1894	4,960,489
1895	8,437,688

It will be seen that the exports for the last quarter were 70 per cent in excess of those for the corresponding quarter of last year, and were greater than those of any corresponding quarter in the years named except 1893.

The declared exports from all France during the first quarter of 1895 aggregated $17,624,697, as against $11,198,949 during the corresponding quarter of 1894, an increase of $6,425,748, or 57 per cent. The declared exports from Paris and from France during the periods of six months ending, respectively, March 31, 1895, and March 31, 1894, were as follows:

From—	1895.	1894.	Increase.	
				Per cent.
Paris	$14,706,514	$9,015,194	$5,691,320	63
France	33,934,960	22,035,894	11,899,066	54

Paper ware	$37,259.24
Rags	42,245.85
Ready-made clothing	231,157.06
Trimmings	53,532.58
Shawls and mufflers	19,556.11
Sheep guts and rennets	37,494.21
Umbrella sticks, etc.	4,810.82
Wines and liquors	1,628.73
Wool and woolen goods	4,263.33
Yarn	26,520.95
Zinc and zinc goods	1,775.87
Sundries	48,521.80
Total	1,026,231.77
Total for same quarter in 1894	599,439.13
Increase	426,792.64

Bremen.

Animals (birds, etc.)	3,141.60
Books (sheet music)	3,222.04
Cement	4,023.39
Chemicals, drugs, etc.	9,428 03
Furs	3,027.17
Glassware	11,157.89
Personal effects, etc.	5,332.63
Provisions	4,071.70
Rags	4,318.99
Rice and rice flour	353,335.04
Sundries	6,008.90
Wine, beer, and liquors	31,972.83
Willow, straw, and wooden ware	24,743.89
Woolen cloth	3,693.76
Wool grease	5,000.14
Total*	472,478.00
Total for same quarter in 1894	319,471.93
Increase	153,006.07

Breslau.

Arsenic	8,714.85
Brushes	5,327.28
Castings of bronze	284.17
Cellulose	9,281.88
Chemicals	5,138.41
Chromos	2,115.45
Coat hangers	806.23
Fancy paper	952.05
Glassware	7,309.13
Glove leather	15,414.13
Horsehair cloth	24,096.97
Ivory buttons	264.95
Leather gloves	209,487.65
Linen and cotton goods	132,188.04
Liquors	143.75
Miscellaneous	1,536.51
Paper frame	1,137.31
Porcelain ware	39,038.04
Potato flour	1,783.52
Rennet powder	543.94
Silk mixed goods	101,846.80
Stone pipes	1,005.83
Straw covers	3,256.04
Sugar	33,111.75
Tinfoil	3,023.54
Toys	$400.95
Willows (peeled)	426.66
Woolen goods	11,134.29
Zinc dust	13,144.65
Total	630,974.93
Total for same quarter in 1894	350,994.84
Increase	279,980.09

Brunswick.

Asphalt	5,578.90
Birds (animals)	6,866.50
Binocular glasses	439.60
Books and printed matter	2,819.40
Chemicals, colors, etc.	55,485.89
Glass	22,080.39
Gloves (kid)	113,313 40
Manure salt	4,718.10
Muriate of potash	14,276.70
Prepared vegetables	4,975.[illegible]
Sausages	1,990.40
Sugar:	
Refined	1,852.60
Raw	1,805,395.10
Sundries	7,579.80
Total	1,447,371.69
Total for same quarter in 1894	691,433.42
Increase	755,938.27

Chemnitz.

Hosiery:	
Cotton	1,796,459.84
Woolen	51,393.31
Silk	24,893.03
Gloves:	
Cotton	37,383.44
Woolen	6,515.95
Silk	219,916.72
Mufflers	3,666.10
Machinery	10,562.03
Miscellaneous	93,140.17
Underwear	59,035.63
Upholstery goods	22,537.75
Total	2,324,903.97
Total for same quarter in 1894	1,398,773.91
Increase	926,130.06

Glauchau.

Brushes	297.50
Buttons (ivory)	525.02
China	5,870.02
Cloakings	266.75
Dress goods	1,070,788.16
Fillet jackets, cotton	427.75
Gloves (kid)	27,508.30
Hosiery:	
Cotton	153,956.03
Silk	16,409.62
Woolen	741.90
Linen goods	1,694.4[illegible]

* Whisky, $139,044 30, not included.

Underwear:	
Cotton	$782.42
Silk	548.00
Woolen	99.97
Yarn	22,231.95
Total	1,302,047.87
Total for same quarter in 1894	438,523.61
Increase	863,524.26

Guben.

Glassware	15,327.22
Linen and cotton goods	133,648.36
Ozocerite and ceresin	3,231.51
Woolen cloth	60,773.91
Total	212,981.00
Total for same quarter in 1894	99,559.82
Increase	113,421.18

Hamburg.

Animals	[illegible],142.00
Baskets and cane ware, etc	65,279.61
Beet (raw) and grape sugar	38,984.18
Bristles, feathers, and horsehair	14,882.95
Coffee	146,693.63
Chemicals and drugs	112,579.95
Dextrin	1,198.31
Dried fruits	2,296.71
Fancy goods, etc	5,816.65
Gutta-percha:	
Crude	7,556.45
Manufactured	12,449.39
Grains, plants, and seeds	88,006.76
Herrings	6,042.94
Human and animal hair	13,287.29
Haircloth	5,895.59
India rubber:	
Crude	105,799.11
Manufactured	18,535.46
Ivory, raw	18,843.13
Jute	10,875.06
Leather:	
Raw	469.81
Goods	1,548.67
Linen and hemp goods	170.49
Liquors, etc	10,023.23
Miscellaneous	6,626.81
Metals:	
Ware	8,177.78
Raw	9,077.02
Musical and scientific instruments	306.06
Paper	5,142.28
Manufactures	1,266.90
Portland cement	51,779.55
Rags, waste paper, etc	71,466.12
Raw hides and skins	145,292.68
Rennets, guts, etc	1,018.40
Salt	204.18
Tobacco (raw)	843.74
Wood	2,390.75
Wool	8,782.75
Woolen goods	$6,630.89
Silk and silk goods	287.89
Total	1,008,571.17
Total for same quarter in 1894	1,759,694.17
Decrease	751,123.00

Hanover.

Ammunition	9,077.32
Antimony	410.76
Asphalt	4,624.50
Birds	14,489.95
Books	529.08
Cement	58,237.12
Chemicals	21,980.46
Earthenware	1,069.38
Glass	822.53
Gloves	18,935.03
Glue	428.40
Grease	7,517.72
Hams	4,260.27
Instruments (scientific)	282.92
Lamp black and colors	3,842.32
Linen goods	5,294.02
Lithography	3,471.12
Matches	428.40
Miscellaneous	1,261.87
Paper	1,075.02
Paper stock (rags)	26,863.43
Poppy flour	556.92
Pipes (clay)	550.04
Silks	10,630.22
Straw goods	2,787.38
Telephones	336.34
Velvets	3,305.63
Rubber goods	17,501.62
Total	220,569.77
Total for same quarter in 1894	193,110.49
Increase	27,459.28

Leipsic.

Books, periodicals, etc	121,296.82
Bristles	92,948.64
China ware	10,038.72
Chromos and fancy paper	14,752.14
Chemicals, drugs, and oils	84,251.29
Fruit juice	403.29
Furs and skins	363,113.22
Instruments (musical and scientific)	17,732.59
Ivory buttons	4,830.10
Leather gloves and leather	68,861.25
Machinery and ironware	6,717.81
Printed music	17,407.44
Sugar	30,322.18
Woolen goods, carpets	640,787.85
Sundries	3,428.26
Total	1,476,891.60
Total for same quarter in 1894	764,562.71
Increase	712,328.89

Magdeburg.

Accordions	3,112.58
Birds	2,190.08

Chicory	$5,871.25
Chlorate of potash	3,697.10
Dental material	1,711.46
Earthen and hollow ware	1,582.05
Gelatin	573.27
Kainit	20,377.13
Lambskins	2,205.55
Leather gloves	115,689.96
Machinery	1,465.50
Manure salt	22,950.24
Muriate of potash	167,130.10
Potatoes	290.12
Saccharine	6,188.00
Seeds	19,187.01
Sauerkraut	285.60
Sugar	121,990.79
Sulphate of potash	22,342.44
Total	518,840.23
Total for same quarter in 1894	600,773.96
Decrease	81,933.73

Plauen.

Cotton laces and embroideries	598,605.58
Flounces	22,279.72
Stuffs	1,128.50
Covers and carpets	12,690.05
Embroidered articles:	
Cotton	70,421.55
Linen	2,959.80
Silk	141.45
Hosiery cotton	57,183.75
Lace curtains	946.66
Linen laces	853.95
Miscellaneous	4,986.21
Silk flounces	937.23
Silk laces and embroidered	16,228.36
Woolens:	
Dress goods	377,777.87
Cloakings	2,641.68
Mantel cloth	13,719.32
Shawls	8,731.83
Musical instruments	151,097.06
Machinery	668.78
Shell goods	2,091.76
Total	1,346,091.11
Total for same quarter in 1894	749,580.89
Increase	596,510.22

Stettin.

Amber goods	20,432.29
Arsenic	1,099.90
Bristles	21,159.41
Breeding animals	178.50
Cement	11,600.88
Dextrin	22,399.05
Flax	1,185.08
Glue powder	1,124.64
Goose meats	533.40
Hair	7,714.08
Hemp	2,152.14
Herring	6,505.76
Machinery	704.00
Miscellaneous	$771.64
Naphtalene balls	926.56
Oil (amber and rape)	2,589.12
Ozocerite	10,837.00
Potash	847.91
Rags and jute bagging	20,310.24
Rubber shoes (old)	2,874.43
Seeds	19,969.85
Spelter	3,899.24
Sugar (raw beet)	32,986.80
Wax (mineral)	1,704.96
Total	194,504.88
Total for same quarter in 1894	571,671.42
Decrease	377,166.54
Grand total	12,908,702.72
Grand total for same quarter in 1894	8,800,854.16
Increase	4,107,848.56

FRANKFORT AND CONSULATES THEREUNDER.

[Report by Consul-General Mason.]

Aix la Chapelle.

Books, stationery, photographs, and paper ware	44,293.87
Buttons and button stuffs, etc	8,030.45
China, glass, porcelain, stone, and earthen ware	2,247.28
Dyes, drugs, chemicals, etc	41,297.80
Linen, woolen, and cotton goods	196,120.16
Mineral water	6,667.21
Prunes, dried fruits, nuts, land produce, etc	11,424.00
Pins and needles	42,547.80
Sundries	3,036.65
Total	355,665.22
Total for same quarter in 1894	153,287.16
Increase	202,378.06

Bamberg.

Baskets and basket ware	43,445.71
Carbons, electric	1,085.40
China, glass, porcelain, stone, and earthen ware	33,787.70
Dyes, drugs, chemicals, etc	762.89
Hops	32,782.73
Sundries	380.04
Wine, brandy, beer, and liquors	3,442.21
Total	115,686.68
Total for same quarter in 1894	98,253.98
Increase	17,432.70

Barmen.

Braids, bindings, trimmings, etc	306,403.82
Books, stationery, photographs, and paper ware	13,429.40
Buttons and button stuffs, etc	36,924.26
Dyes, drugs, chemicals, etc	163,149.06

Fancy goods and toys	$35,078.42
Hatbands and ribbons	253,942.37
Ironware, steel, cutlery, etc	395,958.31
Linen, woolen, and cotton goods	150,948.43
Machinery	576.49
Prunes, dried fruits, nuts, land produce, etc	11,031.38
Pins and needles	35,916.83
Silk, silk goods, velvets, ribbons and braids, etc	355,048.28
Sundries	9,729.42
Total	1,768,137.07
Total for same quarter in 1894	949,949.19
Increase	818,187.88

Cologne.

Books, stationery, photographs, and paper ware	1,863.73
China, glass, porcelain, stone, and earthen ware	19,847.19
Cologne water	8,779.68
Dyes, drugs, chemicals, etc	161,251.66
Ironware, steel, cutlery, etc	23,877.16
Leather goods	23,048.37
Machinery	4,031.15
Mineral water	18,911.99
Prunes, dried fruits, nuts, land produce, etc	26,837.28
Silk, silk goods, velvets, ribbons and braids, etc	30,684.47
Smokers' articles, snuff, cigars, and tobacco	3,882.89
Soaps and perfumery	4,655.28
Sundries	9,660.15
Wine, brandy, beer, and liquors	37,821.94
Total	375,152.94
Total for same quarter in 1894	261,022.89
Increase	114,130.05

Crefeld.

Books, stationery, photographs, and paper ware	12,106.07
Dyes, drugs, chemicals, etc	11,086.96
Hatbands and ribbons	24,806.15
Linen, woolen, and cotton goods	12,455.27
Silk, silk goods, velvets, ribbons and braids, etc	773,354.90
Sundries	1,981.10
Wine, brandy, beer, and liquors	5,424.54
Total	841,214.99
Total for same quarter in 1894	344,854.74
Increase	496,360.25

Dusseldorf.

Braids, bindings, trimmings, etc	168.24
Books, stationery, photographs, and paper ware	2,690.95
Caps and cartridges	1,567.59
China, glass, porcelain, stone, and earthen ware	14,431.58
Dyes, drugs, chemicals, etc	$33,337.08
Fancy goods and toys	196.97
Instruments	429.83
Ironware, steel, cutlery, etc	5,976.81
Linen, woolen, and cotton goods	36,782.99
Machinery	76,337.97
Mineral water	1,775.16
Oil and glass paintings and chromos	1,912.90
Prunes, dried fruits, nuts, land produce, etc	170.81
Silk, silk goods, velvets, ribbons, and braids, etc	19,993.22
Sundries	515.84
Wine, brandy, beer, and liquors	542.99
Total	197,030.93
Total for same quarter in 1894	115,394.47
Increase	81,636.46

Frankfort.

Baskets and basket ware	575.03
Brushes and hair pencils	268.74
Books, stationery, photographs, and paper ware	10,568.16
Buttons and button stuffs, etc	748.45
Cement	7,665.29
Clay	8,664.97
China, glass, porcelain, stone, and earthen ware	3,757.88
Colored, photographic, and fancy paper	27,209.00
Dyes, drugs, chemicals, etc	424,418.72
Fancy goods and toys	11,451.00
Gloves	14,127.85
Hatters' fur	19,598.26
Hair, prepared and raw	20,582.13
Hares' hair	1,780.18
Hops	4,654.05
Instruments	1,345.21
Ironware, steel, cutlery, etc	8,446.18
Jewelry and precious stones	270.37
Leather, hides, and skins	198,628.78
Leather goods	2,913.02
Linen, woolen, and cotton goods	6,224.78
Machinery	2,608.65
Mineral water	305.40
Music, musical strings, and instruments	546.37
Optical goods	3,219.99
Oil and glass paintings and chromos	3,097.63
Platina wire and platinum	26,069.10
Prunes, dried fruits, nuts, land produce, etc	5,814.65
Seeds, plants, etc	3,282.99
Smokers' articles, snuff, cigars, and tobacco	7,905.03
Soaps and perfumery	9,593.10
Sundries	9,326.06
Wine, brandy, beer, and liquors	13,902.25
Wool	10,797.38
Total	870,364.65
Total for same quarter in 1894	634,381.22
Increase	235,983.43

Freiburg.

Brushes and hair pencils	$119.80
Books, stationery, photographs, and paper ware	24,869.40
Buttons and button stuffs, etc	8,734.15
Dyes, drugs, chemicals, etc	50,476.60
Fancy goods and toys	47.60
Ironware, steel, cutlery, etc	2,225.75
Linen, woolen, and cotton goods	476,340.15
Machinery	575.40
Music, musical strings, and instruments	2,469.35
Silk, silk goods, velvets, ribbons, and braids, etc	9,974.75
Sundries	3,042.75
Watches, clocks, and watchmen's detectors	6,321.75
Total	585,197.45
Total for same quarter in 1894	336,085.25
Increase	249,112.20

Fürth.

Bronze powder and leaf metal	56,709.82
Books, stationery, photographs, and paper ware	2,529.00
Fancy goods and toys	20,122.24
Glass (plate, window, and mirror)	138,565.09
Gold, silver, and metal paper	12,330.83
Hops	2,659.75
Optical goods	1,124.39
Prunes, dried fruits, nuts, land produce, etc	2,939.38
Sundries	9,610.81
Total	246,591.31
Total for same quarter in 1894	322,513.63
Decrease	75,922.32

Kehl.

Bronze powder and leaf metal	765.75
Books, stationery, photographs, and paper ware	6,221.97
China, glass, porcelain, stone, and earthen ware	10,586.83
Dyes, drugs, chemicals, etc	10,889.68
Fancy goods and toys	988.20
Hair, prepared and raw	5,747.75
Instruments	249.45
Ironware, steel, cutlery, etc	529.31
Leather, hides, and skins	41,109.01
Linen, woolen, and cotton goods	48,847.77
Prunes, dried fruits, nuts, land produce, etc	4,686.37
Silk, silk goods, velvets, ribbons and braids, etc	16,022.02
Smokers' articles, snuff, cigars, and tobacco	393.18
Sundries	4,425.72
Wine, brandy, beer, and liquors	1,125.60
Watches, clocks, and watchmen's detectors	19,165.97
Total	171,754.58
Total for same quarter in 1894	138,072.05
Increase	33,682.53

Mannheim.

Books, stationery, photographs, and paper ware	$1,608.70
Cement	13,055.24
Dyes, drugs, chemicals, etc	557,780.13
Glass (plate, window, and mirror)	2,536.05
Ironware, steel, cutlery, etc	436.25
Leather, hides, and skins	301,868.40
Linen, woolen, and cotton goods	29,787.85
Sundries	12,961.71
Wine, brandy, beer, and liquors	21,292.37
Total	941,326.70
Total for same quarter in 1894	721,120.89
Increase	220,205.81

Mayence.

Cement	20,093.67
Dyes, drugs, chemicals, etc	101,882.28
Hops	40,526.72
Ironware, steel, cutlery, etc	2,710.55
Jewelry and precious stones	72,727.44
Leather, hides, and skins	10,171.19
Music, musical strings, and instruments	1,800.86
Sundries	4,388.32
Steel (manufactured) and Bessemer	2,691.92
Wine, brandy, beer, and liquors	92,558.80
Total	349,551.75
Total for same quarter in 1894	319,194.58
Increase	30,357.17

Munich.

Brushes and hair pencils	3,689.50
Bronze powder and leaf metal	1,632.37
Books, stationery, photographs, and paper ware	12,485.19
China, glass, porcelain, stone, and earthen ware	651.23
Dyes, drugs, chemicals, etc	3,407.03
Fancy goods and toys	4,000.27
Gold, silver, and metal paper	3,865.81
Gloves	50,893.97
Instruments	1,116.81
Leather, hides, and skins	1,681.23
Linen, woolen, and cotton goods	2,528.11
Music, musical strings, and instruments	636.72
Oil and glass paintings and chromos	21,124.28
Prunes, dried fruits, nuts, land produce, etc	440.46
Statuary and sculpture	8,799.16
Sundries	3,687.00
Wine, brandy, beer, and liquors	19,101.16
Watches, clocks, and watchmen's detectors	3,507.14
Total	143,247.44
Total for same quarter in 1894	93,087.18
Increase	50,160.26

Nuremberg.

Brushes and hair pencils	3,539.81
Bronze powder and leaf metal	70,840.02

Books, stationery, photographs, and paper ware	$18,799.65
Carbons, electric	26,972.31
Clay	305.10
China, glass, porcelain, stone, and earthen ware	13,543.28
Decalcomania	12,627.81
Dyes, drugs, chemicals, etc	11,253.00
Fancy goods and toys	10,203.47
Gold, silver, and metal paper	707.59
Gas-burners, lava gas tips, and brass lamps	3,948.52
Hair, prepared and raw	2,526.79
Hops	91,984.44
Instruments	5,478.53
Ironware, steel, cutlery, etc	8,129.20
Leather, hides, and skins	133.42
Leonic ware	11,136.59
Linen, woolen, and cotton goods	2,269.21
Lithographic stones and materials	16,853.56
Music, musical strings, and instruments	5,851.30
Oil and glass paintings and chromos	826.74
Slates, slate pencils, and lead pencils	36,643.28
Smokers' articles, snuff, cigars, and tobacco	2,079.87
Sundries	2,715.05
Wine, brandy, beer, and liquors	6,299.31
Total	365,667.85
Total for same quarter in 1894	278,514.73
Increase	87,153.12

Sonneberg.

Paskets and basket ware	666.65
Books, stationery, photographs, and paper ware	870.13
China, glass, porcelain, stone and earthen ware	138,781.08
Dyes, drugs, chemicals, etc	5,311.21
Fancy goods and toys	84,114.96
Gloves	12,487.57
Ironware, steel, cutlery, etc	3,187.34
Linen, woolen, and cotton goods	2,507.32
Oil and glass paintings and chromos	1,567.97
Slates, slate pencils, and lead pencils	7,537.53
Sundries	2,485.87
Wine, brandy, beer, and liquors	7,254.87
Total	266,772.50
Total for same quarter in 1894	126,020.49
Increase	140,752.01

Stuttgart.

Books, stationery, photographs, and paper ware	9,499.86
Corsets	36,070.54
Dyes, drugs, chemicals, etc	31,369.98
Instruments	10,783.92
Ironware, steel, cutlery, etc	2,341.64
Jewelry and precious stones	4,697.50
Leather, hides, and skins	1,743.34
Linen, woolen, and cotton goods	68,444.40
Music, musical strings, and instruments	$35,440.50
Prunes, dried fruits, nuts, land produce, etc	21,427.67
Sundries	31,216.49
Wine, brandy, beer, and liquors	568.94
Watches, clocks, and watchmen's detectors	587.10
Total	254,191.88
Total for same quarter in 1894	171,363.93
Increase	82,827.95

Weimar.

Books, stationery, photographs, and paper ware	1,638.62
China, glass, porcelain, stone, and earthen ware	35,199.30
Dyes, drugs, chemicals, etc	5,515.11
Fancy goods and toys	13,535.41
Gloves	10,528.21
Hair, prepared and raw	1,135.57
Linen, woolen, and cotton goods	13,462.28
Optical goods	6,758.14
Seeds, plants, etc	24,115.56
Smokers' articles, snuff, cigars, and tobacco	2,115.04
Sundries	3,771.78
Watches, clocks, and watchmen's detectors	3,782.33
Total	121,557.35
Total for same quarter in 1894	51,175.21
Increase	70,382.14

Total from Frankfort and consulates thereunder.

Braids, bindings, trimmings, etc	306,572.06
Baskets and basket ware	44,685.39
Brushes and hair pencils	7,617.85
Bronze powder and leaf metal	129,947.96
Books, stationery, photographs, and paper ware	163,474.70
Buttons and button stuffs, etc	54,437.51
Carbons, electric	28,057.71
Caps and cartridges	1,567.59
Cement	40,814.20
Clay	8,970.07
China, glass, porcelain, stone, and earthen ware	272,833.35
Corsets	36,070.54
Cologne water	8,779.68
Colored, photographic, and fancy paper	27,209.00
Decalcomania	12,627.81
Dyes, drugs, chemicals, etc	1,613,189.79
Fancy goods and toys	179,738.54
Glass (plate, window, and mirror)	141,101.14
Gold, silver, and metal paper	16,904.23
Gas-burners lava gas tips, and brass lamps	3,948.52
Gloves	88,037.60
Hatters' fur	19,598.26
Hatbands and ribbons	278,748.38

Hair, prepared and raw	$29,992.24
Hares' hair	1,780.18
Hops	172,607.69
Instruments	19,403.75
Ironware, steel, cutlery, etc	453,818.50
Jewelry and precious stones	77,695.31
Leather, hides, and skins	555,335.37
Leather goods	25,961.39
Leonic ware	11,136.59
Linen, woolen, and cotton goods	1,046,718.72
Lithographic stones and materials	16,853.56
Machinery	84,329.66
Mineral water	27,659.76
Music, musical strings, and instruments	46,745.10
Optical goods	11,102.52
Oil and glass paintings and chromos	28,529.52
Platina wire and platinum	26,069.10
Prunes, dried fruits, nuts, land produce, etc	84,772.00
Pins and needles	78,464.63
Seeds, plants, etc	27,398.55
Slates, slate pencils, and lead pencils	44,180.81
Silk, silk goods, velvets, ribbons and braids, etc	1,205,077.64
Smokers' articles, snuff, cigars, and tobacco	16,376.01
Soaps and perfumery	14,248.38
Statuary and sculpture	8,799.16
Sundries	112,934.76
Steel (manufactured) and Bessemer	2,691.92
Wine, brandy, beer, and liquors	209,334.98
Watches, clocks, and watchmen's detectors	33,364.29
Wool	10,797.38
Total	7,969,111.29
Total for same quarter in 1894	5,114,291.59
Increase	2,854,819.70
Total, March quarter, 1891	$8,929,463.14
Total, March quarter, 1892	8,330,549.40
Total, March quarter, 1893	10,045,810.69
Total, March quarter, 1894	5,114,291.59

GIBRALTAR.

[Report by Consul Sprague.]

Bric-a-brac	808.52
Goatskins	405.49
Sheepskins	161.15
Total	1,375.16
Total for same quarter in 1894	830.65
Increase	544.51

GREECE.

[Report by Consul-General Alexander.]

*Athens.**

Carpets	468.65
Casts (plaster)	656.33
Cognac	$26.80
Wine	231.60
Total	1,383.38

Patras.

Currants	39,368.80
Olives	10,182.06
Sundries	21.46
Wine	1,157.46
Total	50,729.78
Total for same quarter in 1894	94,682.13
Decrease	43,952.35

Piræus.

Bricks (fire, magnesic)	1,088.75
Cheese	182.38
Cliff stone (magnesite)	7,985.55
Cognac	721.55
Magnesite (calcined)	186.65
Soap	117.50
Sponges	16,663.93
Total	26,946.31
Total for same quarter in 1894	16,320.86
Increase	10,625.45

*Syra.**

Turkish Delight	18.38

*Zante.**

Sundries	1,194.75

Total from Greece.

Bricks (fire, magnesic)	1,088.75
Carpets	468.65
Casts (plaster)	656.33
Cheese	182.38
Cliff stone (magnesite)	7,985.55
Cognac	748.35
Currants	39,368.80
Magnesite (calcined)	186.65
Olives	10,182.06
Soap	117.50
Sponges	16,663.93
Sundries	1,216.21
Turkish Delight	18.38
Wine	1,389.06
Total	80,272.60
Total for same quarter in 1894	111,002.99
Decrease	30,730.39

HAWAIIAN ISLANDS.

[Report by Consul-General Mills.]

Honolulu.

Sugar	2,228,616.94
Rice	46,869.50
Coffee	9,037.24

*No exports during same quarter in 1894.

Bananas	$27,313.00
Hides	13,064.00
Pineapples	285.40
Goatskins	260.00
Sheepskins	324.00
Molasses	805.00
Betel leaves	370.00
Plants and seeds	500.00
Sundry fruits	386.00
Bones and horns	50.00
Curios	52.00
Sundries	628.35
Foreign goods	20,475.05
Total	2,349,036.48

Kahului.

Sugar	292,554.67
Bananas	71.00
Hides	187.05
Sundries	113.83
Foreign goods	648.13
Total	293,574.68

Hilo.

Sugar	350,560.82
Hides	325.72
Awa	74.50
Total	350,961.04

Mahukona.

Sugar	162,396.57

Total from Hawaiian Islands.

Sugar*	3,034,129.00
Rice	46,869.50
Coffee	9,037.24
Bananas	27,384.00
Hides	13,576.77
Pineapples	285.40
Goatskins	260.00
Sheepskins	324.00
Molasses	805.00
Betel leaves	370.00
Plants and seeds	500.00
Sundry fruits	386.00
Awa	74.50
Bones and horns	50.00
Curios	52.00
Sundries	742.18
Foreign goods	21,123.18
Total	3,155,968.77

HONDURAS.

[Report by Consul Little.]

Amapala.

Amalgam of silver	1,637.44
Deerskins	207.07
Gold:	
Bullion	$17,967.54
Crude	3,998.75
Coin	73.50
Hides	373.12
India rubber	110.53
Silver:	
Bullion	67,363.76
Crude	2,554.50
Coin	53.75
Total	94,338.96

Ceiba.

Tropical fruits	59,987.43

Puerto Cortez.

Bananas	43,300.00
Coffee	12,000.00
Deerskins	2,160.00
Hides	450.00
India rubber	3,150.00
Sarsaparilla	11,610.00
Total	77,670.00

Truxillo.

Coffee	2,808.81
Cocoanuts	1,366.04
Skins:	
Deer	3,528.47
Goat	7.30
Hides	3,713.31
Hide cuttings	29.06
India rubber	3,391.98
Mahogany (timber)	4,400.00
Parrots	12.50
Sarsaparilla	6,901.30
Total	26,158.77

Total from Honduras.

Amalgam of silver	1,637.44
Bananas	48,300.00
Coffee	14,808.81
Cocoanuts	1,366.04
Skins:	
Deer	5,688.47
Goat	7.30
Gold:	
Bullion	17,967.54
Crude	3,998.75
Coin	73.50
Hides	4,536.43
Hide cuttings	29.06
India rubber	6,652.51
Mahogany (timber)	4,400.00
Parrots	12.50
Sarsaparilla	18,511.30
Silver:	
Bullion	67,363.76
Crude	2,554.50
Coin	53.75
Tropical fruits	59,987.43
Total	258,155.16

*Total quantity of sugar exported, 109,501,981 pounds.

ITALY.

[Report by Consul-General Jones.]

Castellamare di Stabia.

Beans	$422.40
Cheese	9,288.42
Chestnuts	450.94
Filberts	1,550.00
Fruits (unclassified)	260.04
Hams	912.20
Lemons	1,920.79
Macaroni	66,491.56
Miscellaneous	5,402.74
Olive oil	1,958.31
Oranges	90,477.31
Pork	260.50
Silk manufactures	94.36
Tomato paste	629.58
Walnuts	1,868.09
Wine	195.81
Total	182,182.55
Total for same quarter in 1894	140,513.60
Increase	41,668.95

Catania.

Almonds	9,515.34
Brimstone	44,412.94
Canary seed	348.84
Filberts	4,642.08
Hair (cattle)	339.30
Lemons	37,313.95
In brine	7,178.25
Licorice (paste)	809.95
Musical instruments	23.35
Oranges	122,813.26
Snuff	25.63
Sulphur flowers	957.60
Terra cotta	31.10
Wine	148.66
Lees	6,974.44
Total	235,534.69
Total for same quarter in 1894	294,515.72
Decrease	58,981.03

Florence.

Alabaster (wrought)	3,426.20
Antiquities	1,430.60
Baskets	758.37
Bronzes	107.00
Copper	501.00
Glass	32.80
Hemp	100,781.69
Household goods	1,562.21
Ironware	111.00
Marble statuary	9,887.60
Mosaics	1,057.00
Olive oil	656.00
Paintings	8,480.20
Pottery	416.40
Sausages	243.99
Seeds	3,170.70
Soap	$649.00
Straw:	
Braids	167,078.03
Hats	349,525.30
Unclassified	13,084.10
Wine	2,268.20
Total	655,227.39
Total for same quarter in 1894	369,951.49
Increase	285,275.90

Genoa.

Anchovies	1,250.69
Brandy	108.84
Cheese	9,253.08
Chestnuts	79.05
Chick-pease	2.89
Corks	206.71
Cotton waste	25,134.39
Filigree	648.04
Fish (in oil)	379.85
Frames (gilt)	269.01
Fruits:	
Candied	700.00
In liquor	570.46
Garlic	894.40
Glycerin	6,783.35
Herbs	745.77
Lemons	37.16
Linen	196.21
Liquors	660.84
Macaroni	6,365.17
Machinery	340.75
Marble, wrought (miscellaneous)	1,020.23
Medicines	257.07
Miscellaneous	256.80
Mushrooms	113.26
Olive oil	36,353.81
Paper	515.19
Peanuts	107.08
Pipes	4.56
Pottery	149.40
Pumice stone	300.92
Rice	4,036.25
Sausages	674.25
Seeds	292.15
Semoule	261.72
Silverware	504.82
Silk (raw)	11,303.88
Skins	4,727.92
Soap	2,555.75
Talc	1,245.14
Tartar	257.87
Tomato paste	63.77
Towels	730.55
Twine	36.10
Whetstones	216.00
Wine	4,652.61
Wool	70.48
Total	125,334.24
Total for same quarter in 1894	251,114.14
Decrease	125,779.90

Leghorn.

Alabaster (wrought)	$813.56
Argols	20,747.98
Beeswax	1,084.80
Books	135.68
Boracic acid	8,161.08
Brier wood	8,025.93
Castor oil	787.86
Cheese	552.62
Citron:	
Candied	2,981.10
In brine	5,078.56
Earth:	
Sienna	708.27
Umber	2,886.54
Hemp	46,859.36
Juniper berries	599.93
Laurel leaves	33.77
Macaroni	234.59
Marble:	
Blocks	105,127.53
Chippings	598.86
Slabs	34,032.92
Statuary	9,562.98
Tiles	434.25
Wrought (miscellaneous)	1,758.53
Medicines	342.27
Miscellaneous	1,546.29
Olive oil	51,701.64
Olive nuts (ground)	120.43
Orris root	3,221.68
Peanuts	2,397.89
Pease	2,433.68
Pumice stone	9,295.83
Rags	24,897.17
Soap	30,601.65
Soap stock	13,881.76
Talc	1,705.69
Wine	2,580.30
Total	395,432.98
Total for same quarter in 1894	364,763.99
Increase	30,608.99

Messina.

Anchovies	116.80
Beans	54.02
Cheese	148.72
Chestnuts	34.11
Citron (in brine)	6,468.60
Essences	109,319.88
Filberts	6,428.19
Fish (salted)	182.96
Fruits (dry)	40.71
Goatskins	926.67
Hair (cattle)	326.65
Jewelry	115.80
Lemons	399,816.59
In brine	826.28
Juice	342.14
Peel (in brine)	525.81
Olives	196.76
Olive oil	30,033.13
Oranges:	
Fresh	613,945.59
In brine	1,221.78
Orange peel	$397.94
Pease	108.56
Pistachio nuts	1,296.68
Pumace stone	3,867.43
Silk (raw)	19,657.66
Sulphur oil	3,412.03
Tobacco	66.19
Tomatoes	29.29
Vinegar	43.13
Wine	396.19
Lees	8,656.91
Total	1,209,003.20
Total for same quarter in 1894	1,165,011.44
Increase	43,991.76

Milan.

Books	308.73
Buttons	5,695.48
Carpet yarn	10,719.63
Cheese	5,393.87
Dyestuffs	2,868.10
Furniture (antique and modern)	506.04
Gloves	39,217.38
Hair (horse)	13,579.57
Hats (see also straw)	144.71
Hatbands	10,283.06
Medicines	2,719.17
Olive oil	241.29
Paints	187.40
Pictures	669.80
Seeds	540.40
Silk:	
Manufactures	94,792.22
Raw	1,078,552.74
Spun and waste	30,324.44
Soap	515.22
Wine	3,593.00
Total	1,300,852.25
Total for same quarter in 1894	1,632,146.20
Decrease	331,293.95

Naples.

Argols	178,739.62
Artichokes	134.80
Bronzes	6,086.90
Cheese	3,114.98
Cherries	2,145.30
Chestnuts	52.00
Gloves	31,542.20
Hair (human)	4,335.81
Hemp	4,835.46
Household goods	132.00
Licorice	6,062.38
Lupines	494.40
Macaroni	2,220.70
Miscellaneous	23,913.11
Musical instruments	27.19
Natural-history specimens	180.00
Olive oil	7,915.34
Oranges (fresh)	1,516.06
Onions	159.10
Paintings	1,893.80

Preserves	$4,174.06
Seeds	2,269.51
Skins	53,387.83
Snuff	623.54
Soap	1,982.12
Soap stock	22,214.17
St. John's bread	231.80
Sulphur (oil)	30,394.83
Wine	3,536.55
Wood (carved and manufactures)	300.00
Wool	1,151.60
Total	397,167.16
Total for same quarter in 1894	315,139.45
Increase	82,027.71

Palermo.

Almonds	16,670.98
Anchovies	42.00
Artichokes	205.40
Beans	13.00
Brimstone	201,679.89
Cheese	2,184.77
Citrate of lime	21,864.08
Fish (salted)	169.56
Fruits (dry)	24.50
Garlic	35.04
Groceries	118.08
Household goods	11.00
Lemons	447,572.39
Essence	976.40
Juice	674.26
Oil	300.00
Macaroni	12,252.68
Manna	680.04
Miscellaneous	529.39
Olives	266.20
Olive oil	3,897.12
Oranges:	
Fresh	283,481.83
Peel	989.13
Extract	970.92
Salt	24,048.44
Seeds	10.00
Semoule	7.14
Snuff	90.00
Soap stock	1,049.41
Sulphur (oil)	998.96
Sumac	83,144.61
Tomato paste	545.56
Vinegar	5.00
Wine	1,448.26
Total	1,106,956.04
Total for same quarter in 1894	1,408,270.10
Decrease	301,314.06

Rome.

Alabaster (wrought)	125.45
Antiquities	1,403.09
Argols	6,170.78
Asphaltum	483.07
Books	341.03
Bronzes	1,860.13
Cheese	6,811.82
Church goods	$1,384.77
Curios	704.25
Cuttlefish bone	334.85
Furniture (antique and modern)	140.89
Household goods	229.80
Liquors	551.96
Marble (statuary)	2,924.52
Mosaics	347.11
Paintings	8,567.40
Pottery	112.51
Silk (raw)	11,621.10
Tapestries	1,968.60
Terra cotta	767.17
Vases	241.25
Wood (carved and manufactures)	392.94
Total	47,484.51
Total for same quarter in 1894	32,140.06
Increase	15,344.45

Turin.

Cheese	1,803.17
Glass	72.54
Grindstones	161.01
Gun stocks	2,216.79
Hair:	
Cloth	6,935.27
Human	1,201.28
Hats (see also straw)	2,075.36
Hemp line	233.53
Leather	109.62
Matches	458.57
Silk:	
Manufactures	5,157.04
Raw	27,655.03
Talc	546.20
Vermuth	42,384.23
Vegetables (canned)	457.60
Wine	417.90
Woolen goods	9,793.67
Total	101,678.81
Total for same quarter in 1894	71,579.01
Increase	30,099.80

Venice.

Antiquities	1,667.00
Books	338.00
Furniture (antique and modern)	3,213.15
Glass	2,989.66
Glycerin	3,847.98
Hemp	61,026.30
Lace	1,608.67
Majolica	159.98
Miscellaneous	805.42
Paintings	1,193.00
Pottery	223.84
Straw (braids)	3,206.20
Terra cotta	167.56
Total	80,446.85
Total for same quarter in 1894	44,339.79
Increase	36,107.06

Total from Italy.

Alabaster (wrought)	$4,365.21
Almonds	26,186.32
Anchovies	1,409.49
Antiquities	4,500.69
Argols	205,658.38
Artichokes	340.20
Asphaltum	483.07
Baskets	758.37
Beans	489.42
Beeswax	1,084.80
Books	1,123.44
Boracic acid	8,161.08
Brandy	108.84
Brimstone	246,092.83
Brier wood	8,025.93
Bronzes	8,054.03
Buttons	5,695.48
Canary seed	348.84
Carpet yarn	10,719.63
Castor oil	787.86
Cheese	38,551.45
Cherries	2,145.36
Chestnuts	615.60
Chick-pease	2.89
Church goods	1,384.77
Citrate of lime	21,864.08
Citron:	
Candied	2,981.10
In brine	11,547.16
Copper	501.00
Corks	206.71
Cotton waste	25,134.39
Curios	704.25
Cuttlefish bone	334.85
Dyestuffs	2,868.15
Earth:	
Sienna	708.27
Umber	2,886 54
Essences	109,319.88
Filberts	12,620.27
Filigree	648.04
Fish:	
In oil	379.85
Salted	352.52
Frames (gilt)	269.01
Fruits:	
Candied	700.00
Dry	65.21
In liquor	570.46
Unclassified	260.04
Furniture (antique and modern)	3,860.08
Garlic	929.44
Glass	3,095.00
Gloves	70,759.58
Glycerin	10,631.33
Goatskins	926.67
Groceries	118.08
Grindstones	161.01
Gun stocks	2,216.79
Hair:	
Cattle	665.95
Cloth	6,935.27
Horse	13,579.57
Human	5,537.09
Hams	$912.20
Hats (see also straw)	2,220.07
Hatbands	10,283.06
Hemp	213,502.90
Line	233.53
Herbs	745.77
Household goods	1,935.01
Ironware	111.00
Jewelry	115.80
Juniper berries	599.93
Lace	1,608.67
Laurel leaves	33.77
Lemons	886,660.88
Essence	976.40
In brine	8,604.53
Juice	1,016.40
Oil	300.00
Peel (in brine)	525.81
Leather	109.62
Licorice	6,062.38
Paste	809.95
Linen	196.21
Liquors	1,212.84
Lupines	194.40
Macaroni	87,564.70
Machinery	340.75
Majolica	159.98
Manna	680.04
Marble:	
Blocks	105,127.53
Chippings	598.86
Slabs	34,032.92
Statuary	22,375.10
Tiles	434.25
Wrought (miscellaneous)	2,778.76
Matches	458.57
Medicines	3,318.51
Miscellaneous	32,453.75
Mosaics	1,404.11
Mushrooms	113.26
Musical instruments	50.54
Natural-history specimens	180.00
Olives	462.96
Olive oil	132,756.64
Oranges:	
Fresh	1,112,234.05
In brine	1,221.78
Peel	1,387.07
Extract	970.92
Olive nuts (ground)	120.43
Onions	159.10
Orris root	3,221.68
Paintings	19,534.40
Paints	187.40
Paper	515.19
Peanuts	2,504.97
Pease	2,542.24
Pictures	669.80
Pipes	4.56
Pistachio nuts	1,296.68
Pork	260.50
Pottery	902.15
Preserves	4,174.06
Pumice stone	13,464.18
Rags	24,897.17

Rice	$4,036.25
Salt	24,048.44
Sausages	918.24
Seeds	6,282.76
Semoule	268.86
Silverware	504.82
Silk:	
Manufactures	100,043.62
Raw	1,148,790.41
Spun and waste	30,324.44
Skins	60,115.75
Snuff	739.17
Soap	36,303.74
Soap stock	37,145.34
St. John's bread	231.80
Straw:	
Braids	170,284.23
Hats	349,525.30
Unclassified	13,084.10
Sulphur:	
Flowers	957.60
Oil	34,805.82
Sumac	83,144.61
Talc	2,997.03
Tartar	257.87
Tapestries	1,968.60
Terra cotta	965.83
Tobacco	66.19
Tomatoes	29.29
Paste	1,238.91
Towels	730.55
Twine	36.10
Vases	241.25
Vermuth	42,384.23
Vegetables (canned)	457.60
Vinegar	48.13
Walnuts	1,868.09
Whetstones	216.00
Wine	19,237.48
Lees	15,631.35
Wood (carved and manufactures)	692.94
Wool	1,222.08
Woolen goods	9,793.67
Total	5,847,300.67
Total for same quarter in 1894	6,089,484.99
Decrease	242,184.32

MALTA.

[Report by Consul Kennedy.]

30 bags squills	124.74
10 bales tobacco	370.04
Total	494.78

MAURITIUS.

[Report by Consul Campbell.]

Sirup (sugar)	59,951.16

MEXICO.

MEXICO CITY.

[Report by Consul-General Crittenden.]

Antiquities (Mexican)	$3,037.20
American goods returned	3,451.13
Bullion:	
Gold and silver	94,532.56
Silver	203,866.51
Silver and lead	4,760.00
Beans (wax)	57.35
Brown root, or broom root	16,858.41
Broken jewelry (old gold)	250.00
Coffee	20,083.75
Chapopote	4.40
Chicle	228,985.57
Damiana	708.02
Fruits (bananas, etc.)	56.88
Fustic	547.28
Fins (shark)	191.32
Feathers	331.28
Fish (salted)	10.53
Horns (cattle)	500.00
Hides	10,740.36
Honey	5,063.92
Hair	317.44
Hennequen	152,555.21
Hemp	421,006.64
Linen (drawn work)	245.84
Logwood	3,732.50
Mahogany and cedar wood	12,241.84
Ore (gold and silver)	320,182.57
Oranges	612.00
Oregano (wild majoram)	103.45
Plumes (Gorza)	2,815.50
Rubber	9,450.92
Sarsaparilla	445.07
Skins:	
Deer	12,312.32
Pig	84.88
Goat	14,434.25
Alligator	150.44
Shells:	
Pearl	10,953.70
Tortoise	96.50
Tobacco	633.60
Vanilla	1,088.74
Total	1,557,519.88

NUEVO LAREDO AND CONSULATES THEREUNDER.*

[Report by Consul-General Donnelly.]

Chihuahua.

Beans	9,057.72
Bullion:	
Gold	137,135.02
Silver	178,702.22
Silver and lead mixed	155,053.42
Copper	107.18
Earthenware	109.83

*No exports declared from Ensenada during the quarter.

Hides	$20,549.58
Oranges	28,884.81
Live stock (cattle)	9,355.63
Silver:	
Ores	203,813.53
Sulphides	32,052.52
Total	774,821.46
Total for same quarter in 1894	396,192.23
Increase	378,629.23

Durango.

Beans	2,477.50
Machine model	129.00
Goatskins	21.715.00
Block tin	10,005.00
Total	34,326.50

Guaymas.

American products returned	500.00
Bullion, gold (30 bars)	329,312.00
Cyanides (2,390 pounds)	15,656.00
Graphite (411,000 pounds)	2,080.00
Hides (44,840 pounds)	7,391.00
Leather, sole (192 rolls)	3,945.00
Oranges (23,323 boxes)	45,834.00
Ores:	
Gold (1,645 pounds)	16,773.00
Silver (2,205,786 pounds)	316,355.00
Pease (110 sacks)	360.00
Sulphides (3,470 pounds)	13,685.00
Shark fins (750 pounds)	300.00
Total	752,191.00

Matamoros.

American products returned	424.86
Animals, live	20,925.50
Asphaltum	184.06
Beans	214.15
Bones and horns	920.16
Bullion (Mexican silver dollars)	3,050.00
Corn	1,669.40
Feathers	164.25
Hair, animal	7,187.20
Hides	13,929.20
Pepper	70.60
Sugar, crude	632.00
Skins	18,987.20
Wax (bees')	52.05
Total	68,410.63

Nogales.

Animals:		
Cattle (22,790 head)		93,853.00
Horses (10 head)		149.00
Bullion:		
Copper (199,100 pounds)		9,427.00
Gold (2 bars)		48,500.00
Silver (3 bars)		939.00
Ores, silver (2,466,750 pounds)		167,441.00
Pearls		3,600.00
Silk manufactures		$676.00
Sugar, crude		151.00
Total		324,736.00

Nuevo Laredo.

American products returned		7,652.87
Animals:		
Steers	$7,291.00	
Cows	1,621.00	
Bulls	405.00	
Heifers	684.00	
Calves	2,401.00	
Mules	2,806.00	
		15,208.00
Argentiferous lead		2,518,408.99
Baskets, willow		13.66
Beans		813.50
Bran		6,250.68
Bones and horns		1,011.61
Bricks		66.00
Bullion, silver		655.00
Coffee		43,686.75
Copper matte		120,588.74
Corn		1,007.67
Earthenware		218.86
Fruits		376.95
Furniture (1 bedstead)		62.00
Garlic		36.53
Hats, palm leaf		1,280.15
Hair, animal		9,336.35
Hides		25,221.44
Ixtle		18,168.41
Leather (sole)		343.99
Morrales (ixtle bags)		437.72
Ores, silver lead		20,534.20
Parrots		306.29
Pepper		735.65
Potatoes		5.25
Sarsaparilla		307.45
Skins:		
Goat	138,269.12	
Deer	2,673.36	
Wild hog	1,441.29	
Kid	2,872.78	
Sheep	98.52	
Wild animals	112.35	
		145,467.42
Sugar, crude		15,963.80
Wax (bees')		2.54
Total		2,954,168.47
Total for same quarter in 1894		2,086,843.24
Increase		867,325.23

Paso del Norte.

American products returned	1,355.00
Animals, live	64,208.00
Beans	544.00
Beef, dried	1,027.00
Books	7.00
Bullion:	
Gold	2,448.00
Silver	71,777.00
Coffee	653.00

Cotton goods	$18.00
Eggs	190.00
Hats, palm leaf	446.00
Hides	3,849.00
Leather	127.00
Manuscript	495.00
Ores	69,323.00
Saddlery	109.00
Sugar, crude	205.00
Tobacco	449.00
Used postage stamps	498.00
Total	217,728.00
Total for same quarter in 1894	220,913.00
Decrease	3,185.00

Piedras Negras.

American products returned	212.00
American cattle and horses	18,805.37
Animals, live	32,223.55
Beans	408.33
Bones	127.09
Bricks	50.00
Bullion (silver)	673.88
Coal	31,655.96
Coffee	2,040.00
Furs	21.88
Hides	5,207.75
Hair, animal	671.10
Oil cake	735.00
Pepper	559.32
Roots	2.50
Ores (silver and lead)	41,063.04
Skins	14,958.07
Total	149,414.84

San Luis Potosi.

Beans	8,816.16
Bones and horns	819.57
Bran, wheat	3,090.00
Bullion:	
Gold	62,117.48
Silver	697,262.50
Lead	60,171.53
Hair, animal	91.20
Ixtle (fiber)	1,750.00
Ores	180,532.90
Pepper	2.946.48
Skins, goat	103,687.10
Total	1,121,284.92

Saltillo.

American products returned	500.00
Barley	278.72
Beans	4,814.10
Books	300.00
Bran	550.00
Bullion:	
Silver	1,088.00
Copper and matte	99,760.94
Cotton-seed meal	168.30
Hair, animal	3,414.14
Hides	$519.34
Ixtle	1,843.07
Ores:	
Silver	11,520.90
Antimony	686.43
Skins	122,056.71
Total	247,500.65
Total for same quarter in 1894	305,818.91
Decrease	58,318.26

Tampico.

American products returned	105.00
Bones	248.00
Chicle (chewing gum)	4,021.00
Cedar, hewn	1,903.00
Coffee	42,434.00
Fustic (dyewood)	20,058.00
Hair, horse and cow	1,621.00
Hides	30,432.00
Honey	12,495.00
Ixtle	38,589.00
Jalap	1,494.00
Oranges	60.00
Skins:	
Wild boar	450.00
Deer	1,014.00
Goat	39,529.00
Sarsaparilla	21,059.00
Liquor (sample)	14.00
Vanilla	3,030.00
Wax (bees')	639.00
Total	219,195.00
Total for same quarter in 1894	198,132.00
Increase	21,063.00

Toreon.

Bran	215.00
Base bullion	191,554.83
Cotton-seed:	
Oil cake	12,113.91
Ashes	1,022.00
Hides	2,572.93
Skins:	
Goat	43,750.32
Sheep	150.00
Total	251,378.99

Tuxpan.

Chicle (chewing gum)	31,942.15
Coffee	1,180.61
Fruits	56.88
Fustic	454.28
Hides	2,044.75
Honey	5,063.92
Rubber	6,470.82
Sarsaparilla	445.07
Skins:	
Deer	651.16
Wild hog	84.88

Vanilla	$1,088.74
Wax (bees')	57.35
Total	49,480.61

Total from Nuevo Laredo and consulates thereunder.

American products returned	29,555.10
Animals, live	235,922.68
Asphaltum	184.06
Argentiferous lead	2,518,408.99
Barley	278.72
Baskets, willow	13.06
Base bullion	191,554.83
Beans	27,505.46
Beef, dried	1,027.00
Bones and horns	3,126.43
Books	307.00
Bran	10,105.68
Bricks, clay	116.00
Bullion:	
Gold	579,512.50
Silver	954,147.60
Copper and matte	229,883.86
Silver and lead mixed	215,224.95
Cedar, hewn	1,903.00
Chicle (chewing gum)	35,963.15
Coal	31,655.96
Coffee	89,934.36
Corn	2,677.07
Cotton goods	18.00
Cotton-seed:	
Meal	168.30
Oil cake	12,848.91
Ashes	1,022.00
Cyanides	15,656.00
Eggs	190.00
Earthenware	328.69
Feathers	164.25
Fruits, oranges, etc	75,212.64
Furniture	62.00
Furs	21.88
Fustic (dyewood)	20,512.28
Garlic	36.53
Graphites	2,080.00
Hair, animal	22,320.99
Hats, palm leaf	1,726.15
Hides	111,716.99
Honey	17,558.92
Ixtle (fiber)	60,350.48
Jalap	1,494.00
Leather (sole)	4,415.99
Liquor (sample)	14.00
Machine model	129.00
Manuscript	495.00
Morrales (ixtle bags)	437.72
Ores:	
Gold	16,773.00
Silver	699,130.43
Silver and lead	311,453.14
Antimony	686.43
Parrots	306.29
Pearls	3,600.00
Pepper	4,312.05
Potatoes	5.25
Postage stamps (used)	$498.00
Roots	2.50
Rubber	6,470.82
Sarsaparilla	21,811.52
Saddlery	109.00
Shark fins	300.00
Silk manufactures	676.00
Silver sulphides	45,737.52
Skins	512,500.86
Sugar, crude	16,951.80
Tobacco	449.00
Tin, block	10,005.00
Vanilla	4,118.74
Wax (bees')	750.94
Total	7,164,637.07

NETHERLANDS.

[Report by Consul Downes.]

Amsterdam.

Aniline colors	993.86
Antiquities	2,536.24
Arrac and brandy	803.72
Beans and pease	404.25
Bitumen	586.54
Books and printed matter	2,435.04
Buffalo hides	1,581.36
Cabbage	3,520.57
Caraway seed	9,622.36
Carpets (Deventer-Smyrna)	320.00
Cassia vera	113.42
Cauliflower	1,652.00
Cheese	7,781.52
Cinchona bark	6,694.87
Cocoa	81,959.26
Cocoa beans	26,601.54
Cocoa butter	68,402.69
Coffee	215,322.96
Cubebs	143.47
Diamonds:	
Polished	275,372.46
Rough	180,144.24
Flax and tow	993.30
Garden seeds	6,379.18
Gin	1,147.37
Goatskins	41,052.79
Gums	2,254.44
Hams	330.02
Household goods	3,008.74
Indigo	4,395.79
Liqueurs	5,268.53
Lizard skins	5,680.10
Mace	1,771.13
Madder	1,121.65
Metal capsules	1,502.45
Nutmegs	43,230.34
Oils (haarlem, etc.)	4,913.76
Paintings	4,474.12
Paper	3,806.76
Pepper	10,159.30
Plants	1,475.70
Plate glass	44,516.19
Prussiate of potash	6,867.00
Rags	12,213.20

Rice	$9,225.75
Sardelles	1,866.32
Straw covers	396.96
Sugar (refined)	3,090.00
Swan skins	417.08
Tin (Banka and Straits)	161,744.82
Tobacco, Sumatra	221,472.94
Turf litter (peat moss)	3,372.24
Sundries	610.00
Total	1,495,750.34
Total for same quarter in 1894	1,490,619.98
Increase	5,130.36

Rotterdam (including Flushing and Schiedam).

Antiquities	309.20
Arrac and brandy	379.41
Bagging	314.10
Balances	724.80
Beans and pease	384.20
Beta naphtol	492.80
Blacking	97.92
Bleaching powder	132.00
Books and printed matter	1,070.80
Bottles and cases	192.39
Bulbs	276.02
Candle pitch	432.32
Carboleum	600.00
Cassia vera	4,614.99
Cheese	16,810.11
Church symbols	2,006.29
Cocoa butter	1,936.00
Coffee	61,944.71
Corks	142.56
Earthenware	4,084.75
Empty grain bags	363.00
Flax and tow	15,980.82
Gin	14,487.64
Glycerin	2,036.77
Herrings	70,643.03
Household goods	154.98
Hyposulphate of soda	4,388.06
Indigo	3,245.62
Instruments	236.22
Leather	214.80
Linen	1,109.50
Mace	1,349.30
Madder	1,417.71
Matches	2,629.20
Metal capsules	398.19
Mineral water	3,389.20
Nutmegs	5,126.38
Oils (haarlem, etc.)	1,003.64
Oleo oil	27,815.60
Paintings	6,540.00
Pepper	114.24
Pipes	454.40
Plants	17,830.58
Rags	14,873.82
Roots and herbs	385.24
Rubber	7,532.46
Seeds	2,589.52
Silverware	4,047.60
Skins and hides	$2,452.34
Stereotype plates	250.00
Straw covers	874.12
Sugar (refined)	10,304.03
Tinfoil	240.00
Tobacco, Sumatra	16,643.95
Tortoise shells	1,748.00
Turf litter (peat moss)	14,105.53
Vegetables	1,481.04
Woolen manufactures	3,604.64
Sundries	100.00
Total	359,107.04
Total for same quarter in 1894	414,156.08
Decrease	55,049.04

Total from Netherlands.

Aniline colors	993.86
Antiquities	2,845.44
Arrac and brandy	1,183.13
Bagging	314.10
Balances	724.80
Beans and pease	788.45
Beta naphtol	492.80
Bitumen	586.54
Blacking	97.92
Bleaching powder	132.00
Books and printed matter	3,505.84
Bottles and cases	192.39
Buffalo hides	1,581.36
Bulbs	276.02
Cabbage	3,520.57
Candle pitch	432.32
Caraway seed	9,622.36
Carboleum	600.00
Carpets (Deventer-Smyrna)	320.00
Cassia vera	4,728.41
Cauliflower	1,652.00
Cheese	24,591.63
Church symbols	2,006.29
Cinchona bark	6,694.87
Cocoa	81,959.26
Cocoa beans	26,601.54
Cocoa butter	70,338.60
Coffee	277,267.67
Corks	142.56
Cubebs	143.47
Diamonds:	
Polished	275,372.46
Rough	180,144.24
Earthenware	4,084.75
Empty grain bags	363.00
Flax and tow	16,974.12
Garden seeds	6,379.18
Gin	15,635.01
Glycerin	2,036.77
Goatskins	41,052.79
Gums	2,254.44
Hams	330.02
Herring	70,643.03
Household goods	3,163.72
Hyposulphate of soda	4,388.06
Indigo	7,641.41
Instruments	236.22
Leather	214.80

Linen	$1,109.50
Liqueurs	5,268.53
Lizard skins	5,680.10
Mace	3,120.43
Madder	2,539.36
Matches	2,629.20
Metal capsules	1,900.64
Mineral water	3,389.20
Nutmegs	48,356.72
Oils (haarlem, etc.)	5,917.40
Oleo oil	27,815.60
Paintings	11,014.12
Paper	3,806.76
Pepper	10,274.04
Pipes	454.40
Plants	19,306.28
Plate glass	44,516.19
Prussiate of potash	6,867.00
Rags	27,087.02
Rice	9,225.75
Roots and herbs	385.24
Rubber	7,532.46
Sardelles	1,866.32
Seeds	2,589.32
Silverware	4,047.60
Skins and hides	2,452.34
Stereotype plates	250.00
Straw covers	1,271.08
Sugar (refined)	13,394.03
Swan skins	417.08
Tin (Banka and Straits)	161,744.82
Tinfoil	240.00
Tobacco, Sumatra*	238,116.89
Tortoise shells	1,748.00
Turf litter (peat moss)	17,477.77
Vegetables	1,481.04
Woolen manufactures	3,604.64
Sundries	710.00
Total	1,854,857.38
Total for same quarter in 1894	1,904,776.06
Decrease	49,918.68

RUSSIA.†

[Report by Consul-General Karel.]

Batoum.

Licorice root	193,275.73
Manganese ore	31,455.29
Total	224,731.02

Libau.

Cow skins	7,150.37
Goatskins	109,451.36
Oil	68.61
Total	116,670.34

Moscow.

Goatskins	81,338.58
Horse manes	2,263.25
Lycopodium	$910.34
Tea	67.24
Wool	57,863.09
Total	142,442.50

Odessa.

Corn, blighted	1,902.60
Galoches, old	220.48
Goatskins	23,519.63
Hemp seed	3,744.22
Millet seed	2,907.85
Tobacco	1,071.06
Wool	63,664.33
Total	97,030.17

Riga.

Books	4,280.83
Church articles	281.29
Dressed leather	358.49
Hemp	10,494.21
Liquors	855.06
Rubber waste	744.44
Total	17,014.32

St. Petersburg.

Albumen (blood)	6,525.00
Boltropes	1,132.30
Books	525.00
Bristles	127,885.14
Church articles	4,465.00
Dressed leather	2,026.70
Flax	17,468.30
Isinglass	1,300.00
Mail plates	500.00
Paraffin	1,732.00
Platinum	20,874.00
Sundries	316.70
Tow	238.55
Total	184,988.69

Warsaw.

Books	315.23
Ozokent	548.00
Total	863.23

Total from Russia.

Albumen (blood)	6,525.00
Boltropes	1,132.30
Books	5,121.06
Bristles	127,885.14
Church articles	4,746.29
Corn, blighted	1,902.60
Cow skins	7,150.37
Dressed leather	2,385.19
Flax	17,468.30
Galoches, old	220.48
Goatskins	214,309.57

*From Amsterdam, 950 bales; from Rotterdam, 91 bales.

†No exports declared during the quarter at Abo, Cronstadt, Helsingfors, Revel, Rostoff, Taganrog, or Wiborg.

Hemp	$10,494.21
Hemp seed	3,744.22
Horse manes	2,263.25
Isinglass	1,300.00
Licorice root	193,275.73
Liquors	855.06
Lycopodium	910.34
Mail plates	500.00
Manganese ore	31,455.29
Millet seed	2,907.85
Oil	68.61
Ozokent	548.00
Paraffin	1,732.00
Platinum	20,874.00
Rubber waste	744.44
Sundries	316.70
Tea	67.24
Tobacco	1,071.06
Tow	238.55
Wool	121,527.42
Total	783,740.27

SPAIN.*

[Report by Consul-General Bowen.]

Alicante.

Almonds	8,570.49
Raisins	312.08
Wine (common)	168.24
Total	9,050.81

Barcelona.

American bags	1,310.28
Antiquities	328.80
Canned goods	115.27
Capers	570.00
Corks	69,126.67
Glycerin	43,980.93
Iron ore	2,793.96
Licorice	17,399.40
Liquors	222.72
Mineral water	4,533.48
Oranges	14,425.79
Pickles	55.40
Red peppers	127.26
Saffron	1,181.70
Skins	11,024.53
Tartar	19,735.11
Wine (common)	12,156.80
Wool	1,189.78
Miscellaneous	720.76
Total	200,998.04

Cadiz.

Antiquities	1,082.00
Cork	14,118.00
Cork wood	60,461.00
Cupreous sulphur ore	77,670.50
Iron pyrites	27,543.30
Licorice	7,025.00
Wine:	
Malaga	$1,373.47
Manzanilla	119.00
Sherry	151,219.65
Olives	115,444.00
Paintings	1,682.29
Pottery	349.00
Miscellaneous	2,053.53
Total	460,140.74

Carthagena.

Iron ore	23,812.06

Denia.

Palm-leaf hats	1,456.00
Raisins	5,200.00
Total	6,656.00

Malaga.

Almonds	25,478.25
Garlic	96.07
Grapes	2,611.00
Orange peel	239.40
Paints	11.53
Palm-leaf hats	32,038.31
Raisins	2,944.87
Red peppers	340.54
Wine (common)	2,553.79
Miscellaneous	35.36
Total	66,349.12

Madrid.

Oil painting	239.28
Skins	5,066.85
Miscellaneous	1,440.83
Total	6,746.96

Total from Spain.

Almonds	34,048.74
American bags	1,310.28
Antiquities	1,410.80
Canned goods	115.27
Capers	570.00
Corks	83,244.67
Cork wood	60,461.00
Cupreous sulphur ore	70,670.50
Garlic	96.07
Glycerin	43,980.93
Grapes	2,611.00
Iron:	
Ore	26,606.02
Pyrites	27,543.30
Licorice	24,424.40
Liquors	222.72
Wine:	
Malaga	1,373.47
Manzanilla	119.00
Sherry	151,219.05
Common	14,878.83
Mineral water	4,533.48

* No exports declared at the consulates of Corunna and Garrucha during the quarter.

Oil painting	$239.28
Olives	115,444.00
Oranges	14,425.19
Orange peel	239.40
Paints	11.53
Paintings	1,682.29
Palm-leaf hats	33,494.31
Pickles	55.40
Pottery	349.00
Raisins	8,456.95
Red peppers	467.80
Saffron	1,181.70
Skins	16,091.38
Tartar	19,735.11
Wool	1,189.78
Miscellaneous	4,250.48
Total	773,753.73

SWEDEN AND NORWAY.*

[Report by Consul O'Neil.]

Bergen.

Herrings	23,091.29
Miscellaneous	13,451.42
Skins	7,906.00
Wood pulp	18,827.76
Total	63,276.47

Christiania.

Herrings	8,669.20
Mackerel	3,901.41
Matches	5,153.69
Miscellaneous	15,836.22
Skins	10,167.44
Wood pulp	77,559.67
Total	121,287.63
Total for same quarter in 1894	137,969.95

Christiansand.

Mackerel	861.35

Gothenberg.

Hides	8,145.57
Iron:	
Pig iron	28,963.34
Wire rods	856.39
Bars and bar ends	2,660.65
Rivet-wire rods	10,899.53
Nail rods	26,434.32
Matches	21,484.14
Miscellaneous	9,495.52
Steel:	
Wire rods	441.47
Bars and billets	2,895.04
Wood pulp	18,276.56
Total	130,552.53

Helsingborg.

Miscellaneous	374.34

Malmo.

Miscellaneous	$4,687.01

Stockholm.

Iron	33,948.95
Wire rods	30,839.76
Nail rods	15,542.87
Miscellaneous	12,069.53
Steel	67,585.74
Wire rods	19,915.21
Total	179,902.06
Total for same quarter in 1894	83,439.85

Total from Sweden and Norway.

Herrings	31,760.49
Hides	8,145.57
Iron	33,948.96
Pig iron	28,963.34
Wire rods	31,696.15
Bars and bar ends	2,660.65
Rivet-wire rods	10,899.53
Nail rods	41,977.19
Mackerel	4,762.76
Matches	26,637.83
Miscellaneous	55,905.04
Skins	18,073.45
Steel	67,585.74
Wire rods	20,356.68
Bars and billets	2,895.04
Wood pulp	114,663.99
Total	500,932.39

SWITZERLAND.

[Report by Vice-Consul-General Zollikofer.]

Basle.

Absinthe	11,605.70
Aniline colors	95,516.96
Argols	734.22
Asphalt	3,819.00
Cheese	4,508.09
Chocolate	3,219.85
Clothing (knit)	15,585.54
Dyestuffs and chemicals	51,962.50
Hides (salted)	17,428.70
Ribbons, silk and mixed	348,122.49
Silk (spun waste)	50,922.89
Spirits	250.08
Watches and watch materials	194,012.74
Miscellaneous	1,059.89
Total	798,748.65
Total for same quarter in 1894	473,413.78
Increase	325,334.87

Berne.

Cheese	127,227.56
Clothing (knit)	19,040.05
Condensed milk	193.77
Horn ware	6,710.33
Silk (tissues)	19,055.93

*No exports declared at Arendal, Drontheim, or Stavanger during the quarter.

Straw goods	$7,007.25
Watches and watch materials	124.10
Miscellaneous	1,160.84
Total	180,519.83
Total for same quarter in 1894	177,757.24
Increase	2,762.59

Geneva.

Aniline colors	1,456.74
Cheese	429.04
Chocolate	215.19
Chromos	269.75
Condensed milk	7,429.73
Furs	208.73
Hardware and machinery	9,415.89
Leather	5,057.95
Musical boxes	13,924.18
Physical instruments	785.70
Watches and watch materials	15,304.20
Total	54,497.10
Total for same quarter in 1894	72,901.48
Decrease	18,404.38

Horgen.

Cheese	5,915.51
Church articles	7,177.95
Condensed milk	18,238.50
Ribbons, silk and mixed	11,133.60
Silk:	
Embroideries and half-silk piece goods	293,567.85
Spun	3,587.09
Spirits	673.66
Miscellaneous	5,264.25
Total	345,558.41
Total for same quarter in 1894	284,238.51
Increase	61,319.90

St. Gall.

Clothing (knit)	9,388.40
Cotton:	
Cloth	41,980.12
Embroideries	1,319,813.81
Curtains	405,338.81
Dresses, aprons, handkerchiefs, ties, collars, etc	158,741.11
Hardware and machinery	6,416.12
Laces	81,241.29
Linen goods	1,086.98
Parasol covers	660.48
Postage stamps (used)	673.36
Ribbons, silk and mixed	592.41
Silk:	
Bolting cloth	9,678.65
Embroideries	23,861.62
Toggenburg articles	2,855.52
Miscellaneous	1,636.24
Total	2,058,964.95
Total for same quarter in 1894	945,687.45
Increase	1,113,277.50

Zurich.

Beef extract	$3,874.20
Books	80.49
Brushes	553.91
Cheese	14,087.25
Clothing (knit)	45,414.14
Cotton:	
Cloth	33,541.77
Embroideries	1,036.24
Elastics	2,753.02
Gelatin	449.63
Hardware and machinery	1,334.98
Household effects	228.22
Metallic cement	579.00
Physical instruments	486.94
Photographs	2,468.22
Ribbons, silk and mixed	11,621.78
Silk:	
Bolting cloth	42,269.20
Embroideries	110.82
Embroideries and half-silk piece goods	674,499.12
Spun	6,717.55
Straw goods	279,662.51
Swiss pills	643.66
Velvets	213.07
Woolens:	
Piece goods	13,543.17
Yarns	49,964.05
Total	1,186,132.94
Total for same quarter in 1894	827,291.75
Increase	358,841.19

Total from Switzerland.

Absinthe	11,605.70
Aniline colors	96,973.70
Argols	734.22
Asphalt	3,819.00
Beef extract	3,874.20
Books	80.49
Brushes	553.91
Cheese	152,167.45
Chocolate	3,435.04
Chromos	269.75
Church articles	7,177.95
Clothing (knit)	84,428.13
Condensed milk	25,862.00
Cotton:	
Cloth	75,521.89
Embroideries	1,320,850.08
Curtains	405,338.81
Dresses, aprons, handkerchiefs, ties, collars, etc	158,741.11
Dyestuffs and chemicals	51,962.50
Elastics	2,753.02
Furs	208.73
Gelatin	449.63
Hardware and machinery	17,166.99
Hides (salted)	17,428.70
Household effects	228.22
Horn ware	6,710.33
Laces	91,241.29
Leather	5,057.95
Linen goods	1,086.98

Metallic cement	$579.00
Musical boxes	13,924 18
Physical instruments	1,272.64
Photographs	2,468.22
Parasol covers	660.48
Postage stamps (used)	673.36
Ribbons, silk and mixed	371,470.28
Silk:	
Bolting cloth	51,947.85
Embroideries	83,978.44
Embroideries and half-silk piece goods	968,066.97
Spun	10,304.64
Spun waste	50,922.89
Tissues	19,055.93
Spirits	923.74
Straw goods	286,669.76
Swiss pills	643.66
Toggenburg articles	2,855.52
Velvets	213.07
Watches and watch materials	209,441.04
Woolen:	
Piece goods	13,543.17
Yarns	49,964.05
Miscellaneous	9,121.22
Total	4,624,421.88
Total for same quarter in 1894	2,781,290.21
Increase	1,843,131.67

TURKISH EMPIRE.*

[Report by Acting Consul-General Bigelow.]

Bagdad.

Licorice root	14,858.66
Nutgalls	3,574 81
Wool	30,545.24
Total	48,978.71

Beirut.

Glassware, ancient	1,103.12
Licorice root	72,334.00
Oriental articles and bazaar goods	1,986.42
Skins (goat)	129.50
Soap (white castile)	392.66
Sundries	2,896.02
Wool	43,322.10
Total	122,163.82

Constantinople.

Attar of roses	45,706.75
Pure	384.38
Canary seed	3,721.47
Carpets and rugs	204,384.09
Embroideries	5,667.42
Gum tragacanth	22,951.52
Manganese	17,504.00
Millet seed	745.00
Mohair	81,789.23
Olives	170.94
Opium	$83,837.88
Oriental articles and bazaar goods	9,077.20
Roans	11,322.77
Rubber waste	414.70
Skins (goat and kid)	161,012.65
Sundries	5,739.95
Tobacco	4,651.70
Wool	52,803.97
Total	711,885.62

Jerusalem.

Mother-of-pearl work	4,353.66
Olive-wood work	207.26
Total	4,560.93

Smyrna.

Carpets and rugs	45,876.60
Emery stone	19,083.68
Figs	1,074.92
Licorice root	93,327.96
Nutgalls	1,129.92
Olive oil	16,481.96
Opium	166,421.64
Raisins	20,248.80
Skins (goat)	8,607.72
Sundries	1,205.16
Tobacco	6,574.48
Wool	15,022.48
Total	395,055.32

Total from Turkish Empire.

Attar of roses	45,706.75
Pure	384.38
Canary seed	3,721.47
Carpets and rugs	250,260.69
Embroideries	5,667.42
Emery stone	19,083.68
Figs	1,074.92
Glassware, ancient	1,103.12
Gum tragacanth	22,951.52
Licorice root	180,520.62
Manganese	17,504.00
Millet seed	745.00
Mohair	81,789.23
Mother-of-pearl work	4,353.67
Nutgalls	4,704.73
Olives	170.94
Olive oil	16,481.96
Olive-wood work	207 26
Opium	250,259.52
Oriental articles and bazaar goods	11,063.62
Raisins	20,248.80
Roans	11,322.77
Rubber waste	414.70
Skins (goat)	169,749.87
Soap (castile)	392.66
Sundries	9,841.13
Tobacco	11,226.18
Wool	141,693.79
Total	1,282,644.40

*No exports declared at Sivas during the quarter

BULGARIAN INDUSTRIAL DEVELOPMENT, TRADE, ETC.

The rapid advance of German trade in Bulgaria led me to look into the conditions of that market. The results of my inquiry are presented herewith. It is the first time Bulgaria has been made the subject of a contribution to the CONSULAR REPORTS. The topic, however, is a timely one, and deserves the attention of our exporters at home. There is no reason why the German articles of import may not be supplanted in the Bulgarian market by American goods.

In opening up trade with the Balkan countries, it is well to remember the advice recently given to his countrymen by the German consul in Constantinople, namely, never to deal directly with native business houses, but either establish a branch house or do business through commission merchants under the protection of some foreign minister resident.

I inclose a map of the proposed railway system of Bulgaria, as it appeared in a recent number of the Archiv für Eisenbahnwesen, Berlin.*

AGRICULTURE.

Grain is cultivated in Bulgaria in the most primitive manner. The land is not manured, nor is there a rational succession of crops; when the ground has yielded a few crops, it is laid up for one or two years. Even more primitive are the implements used for tilling the soil. In fact, a wooden plow and a hoe, both of which ought only to be found in an agricultural museum, complete the outfit. Only in the districts of Roustchouk and Wratza, is an advancement toward modern methods noticeable. Here, there is hardly a village without a fanning mill—a remarkable contrast to the Sofia district. The Government, however, is making every endeavor to introduce a more rational method of farming. All kinds of seeds are freely distributed in large quantities. Of particular value in this educational work is a sample depot near Roustchouk, where agricultural machines of every description, American not excepted, are exhibited.

In 1892, the yield of the cereals was as follows:

Description.	Quantity.	Description.	Quantity.
Wheat:	*Tons.*		*Tons.*
White	395	Oats	54,181
Red	444,522	Spelt	3,156
Mixed	21,848	Millet	4,091
Rye	70,030	Maize	208,153
Barley	125,368		

* Map filed in Bureau of Statistics, Department of State.

The exports of cereals will be seen from the following figures:

Description.	1893.	1892.	1891.
	Tons.	*Tons.*	*Tons.*
Wheat	116,388	112,208	99,232
Rye	31,845	39,930	51,177
Maize	228,254	66,471	40,138
Barley	16,104	13,675	12,936
Oats	1,806	3,141	1,353

In the breeding of farm animals, the greatest attention is given to the raising of sheep and goats, the number of which is steadily increasing. Draft oxen, too, are well cared for, while horses are neither numerous nor good; for farm work they are not employed, and for military purposes they are said to be unfit. The latter is true also of the Rasgrad and Silistria districts, where horse breeding once flourished.

Eggs are no small article of export; in fact, in Rasgrad they are the chief article of trade. From here and Roustchouk, 45 miles north, about 10,000,000 to 12,000,000 eggs and 300,000 fowls are shipped annually, either via Varna (the seaport) to Constantinople and other ports, or up the Danube to Austria-Hungary, and, since 1893, even as far as Germany—Leipsic and Frankfort. The time required for shipments from Rasgrad to Germany is, for common freight, fourteen to eighteen days; for fast freight, seven to nine days. The price paid in Rasgrad per 100 eggs is 38½ to 96½ cents (2 to 5 francs). The eggs are packed in cases holding a little over 10 gross.

MANUFACTURES.

When speaking of the industries of Bulgaria, only those manufacturing industries which stand in some relation to agriculture come into consideration.

Milling.—Besides the 66 large mills operated by steam and water power—2 of which are located at Sofia, 9 at Philippopolis and vicinity, 2 at Burgas, and the rest in Silistria, Roustchouk, and Tirnovo—there are between 15,000 and 20,000 primitive concerns, run by water, wind, or horsepower, scattered all over the country.

The exports of milling products, as compared with those of cereals, are very small, being only about 1 to 2½ per cent. They were valued in 1893 at $130,606.57; in 1892, at $176,876.87; and in 1891, at $101,846.29.

Leather.—One-third of the population of the cities of Sewliewo and Gabrovo, with the surrounding villages, are engaged in tanning. In the first-named city, a tannery school is to be erected. In the manufacture of leather articles, Haskowo and Rasgrad are prominent, the latter particularly in the manufacture of shoes. The exports of raw hides are chiefly made up of sheep and goat hides, corresponding with the large number of sheep and

goats in the principality. Calf leather is imported to meet the increasing wants of the shoe factories.

The total exports of hides and leather goods in 1893 amounted to $300,874.46, of which Austria-Hungary took $200,473.54, and France $38,377.86. The imports were $994,206.88, coming mainly from Austria-Hungary ($199,755), France ($138,788.62), and Germany ($106,737.88).

Textiles.—The manufacture of textiles is confined almost wholly to three articles, namely, (1) "aba," a crude brown web used for lining the leather clothing of the peasants; (2) "schajak," a good strong cloth of either blue, gray, or white color (until recently, "schajak" had no competition, but of late years western European fashions are finding their way into this country, the result of which is that the manufacture of the article is rapidly declining); (3) "gajtan," a sort of cord used by the Bulgarian and Turkish peasantry as a trimming.

The seats of this branch of industry are Gabrovo, Karlowo, Samokow, Sliwen—with 20 factories—and Wratza.

From the following tables will be seen the extent of the foreign trade in these articles:

Articles.	Imports.			Exports.		
	1893.	1892.	1891.	1893.	1892.	1891.
Aba	$1,847.98	$4,563.87	$9,868.48	$99,247.36	$91,507.67	$67,374.76
Schajak	3,123.71	1,405.43	3,976.00	187,412.84	171,165.14	330,654.74
Gajtan	2,786.53	669.71	920.62	167,713.53	164,011.21	168,164.00

The manufacturers of carpets no longer produce those qualities and sizes for which Bulgaria was once noted. The exports, which, in 1891, were larger than the imports, have now been far exceeded by the latter, as will be seen from the following figures:

Year.	Imports.	Exports.
1893	$24,869.40	$8,376.20
1892	14,854.25	10,586.05
1891	17,923.72	18,110.74

Austria-Hungary participated in the imports of 1893 with 76 per cent, Great Britain with 11 per cent, and Germany with 1.25 per cent, and the balance came from Turkey. The chief manufacturers are in Kotel, Elena, Zaribrod, Wratza, and Berkowitza.

It is not so much the manufacture of silk goods as the culture of the silkworm which receives the full attention of both the populace and the Government. The value of cocoons exported rose from $96,136.20 in 1892, to $140,813 in 1893, while the imports fell in the same years from $2,958.69

to $17.86. The manufacture of silks is carried on only at a few places, principal among which is Wratza. The greater part of the Bulgarian supply must come from abroad. The imports in silks are increasing rapidly. In 1893, they were valued at $73,981.73; 1892, $46,175.44; 1891, $35,123.88.

In 1893, the total value of all textiles imported was $5,400,971.25; 1892, $4,460,512.36; 1891, $4,045,471.04. The exports were, in 1893, $667,076.32; in 1892, $605,472.27; and in 1891, $797,657.61. In the import figures of 1893 Great Britain participated with $2,448,300.73; Austria-Hungary, $1,449,468.80; Germany, $400,749.25; and France, $164,076.83.

Spirits.—Spirits are distilled chiefly for home consumption, but not in sufficient quantity to meet the demand; the imports are, therefore, in great excess over the exports. "Sliwowitz," a plum brandy, is made in Sofia and Köstendil; "mastika," a grape brandy of resinous taste, is made everywhere in the principality, and is much liked by the peasantry; rum, arrack, cognac, and other fine liquors are not produced in the country to any great extent, but are imported. A company is said to be about to undertake the manufacture of cognac, but it is not believed that its products will be able to compete with those of France and Greece. The consumption of alcohol is growing, as the imports as well as the home production indicate, with an exportation hardly worth mentioning. The extent of the foreign trade will be seen from the following tables. As to the home production, there are 8 distilleries, which turned out in 1893, 4,037,680 liters of alcohol (1 liter= 1.056 quarts), against 3,457,800 liters in 1892, at an average cost of 9½ to 10½ cents per liter.

Articles.	Imports.			Exports.		
	1893.	1892.	1891.	1893.	1892.	1891.
Rum, arrack, cognac, etc.....	$91,522.14	$59,962.40	$58,885.07	$718.50	$265.13	$42.85
Alcohol.....	549,996.93	318,313.36	580,214.30	377.51	255.15	274.06
Sliwowitz, mastika, etc.....	2,954.25	4,095.46	5,083.43	1,298.70	1,831.57	1,352.93

Beer.—The consumption of this beverage is increasing from year to year. There are now 18 breweries in the country, 5 of which are located in Sofia, several in Roustchouk, and the remainder in Philippopolis, Varna, Schumla, Tirnovo, Lom, and Widdin. These are, however, not able to supply the demand of the home market, as the following statement of imports and exports shows:

Year.	Imports.	Exports.
1893.....	$16,002.79	$65.62
1892.....	13,957.57	965.58
1891.....	24,879.75	81.45

Tobacco.—The tobacco industry is an extensive one, employing 100 factories, which work up about three-fourths of the entire crop for home consumption. Only a small percentage of the manufactured article is exported. The raw material, however, has a good market abroad.

Bulgaria's foreign trade in tobacco is exhibited in the following table:

Articles.	Imports.			Exports.		
	1893.	1892.	1891.	1893.	1892.	1891.
Tobacco:						
Raw	$3,809.24	$1,634.15	$16,360.03	$40,147.67	$24,903.76	$58,898.78
Prepared	15.05	38.39	345.08	6,368.81	6,201.09	2,365.02
Cigarettes	82.80	144 94	3,565.48	632.27	1,928.07	3,043.61
Cigars	4,557.53	2,972.59	3,774.69	.....	.....	347.40
Snuff	.77	7.53	8.18	115.80	11.58	.....

Oil of roses.—The culture of roses for the manufacture of attar is carried on, principally, in the valleys of Kazanlyk and Karlowo. The industry has, however, gone back considerably since 1890. While in 1889 and 1890 the value of the exports were $250,000 and $300,000, respectively, they disclosed a falling off to $67,200 in 1891, further to a fall in 1892 to $54,800, and to $28,700 in 1893. A large part of the trade has gone to southern France.

Minor industries.—There remain to be mentioned the manufacture of cutlery, at Gabrovo; of filigree, at Widdin and Lom-Palanka; of soap and ink, and the various wood industries, making building lumber, shingles, wagons, furniture, the peculiar Bulgarian drinking cups, etc. But the products of all these industries are for the local market only, and are not sufficient to meet the demand. The articles are nearly all handmade and usually crude and clumsy. Machinery is not yet employed to any great extent. It is expected, however, that larger concerns will be erected and operated in a modern style, when the rich coal deposits between Pernik and Vladaja will have been made accessible by railroad, now in course of construction.

Government aid.—The Government is encouraging trades and industries in every possible way. At another place will be found a copy of a law, recently adopted by the assembly, for the encouragement of industries. At Kejajewo, near Sofia, a technical high school has been established, where theoretical and practical instruction is given in locksmithing, furniture making, carving, tanning, dyeing, weaving, etc. After a three years' course, the graduates are sent abroad, usually to Germany, for further training, and, upon their return, establish themselves, using what they have gathered abroad with good results, both for themselves and for further development of trades and industries in their own country.

FOREIGN TRADE.

The following tables exhibit the trade of Bulgaria with foreign countries:

Imports.

Countries.	1894.	1893.	1892.	1891.	1890.
Austria-Hungary	$6,833,690	$6,275,562	$5,423,815	$6,560,591	$6,370,111
Great Britain	3,926,919	3,883,414	3,460,418	3,087,001	3,863,936
Germany	2,353,714	2,327,591	1,601,334	948,334	746,019
Turkey	2,488,903	1,932,792	1,054,010	1,911,799	2,005,931
France	728,115	777,561	622,433	765,995	677,716
Russia	762,849	654,059	586,903	1,052,486	1,003,932
Italy	524,552	445,390	294,685	270,206	254,644
Roumania	550,556	415,943	284,821	350,577	421,568
Belgium	.....	293,085	257,291	278,034	479,678
Servia	233,008	230,629	165,821	175,487	227,527
Switzerland	194,830	201,691	162,207	182,135	134,164
Netherlands	.....	25,087	11,545	21,277	12,728
United States	.....	22,676	18,496	11,094	7,845
Greece	.....	19,036	11,128	32,847	22,270
Norway and Sweden	.....	10,383	7,305	22,731	6,298
Total (including imports from other countries)	19,315,945	17,537,504	14,919,480	15,700,192	16,314,385

Exports.

Countries.	1894.	1893.	1892.	1891.	1890.
Turkey	$5,215,884	$4,730,436	$4,160,283	$3,311,363	$4,232,146
Great Britain	2,414,329	3,289,703	1,410,193	3,238,154	2,882,804
Germany	2,326,566	3,052,904	2,512,122	201,669	95,681
France	1,697,522	2,746,816	3,763,853	4,681,621	3,762,791
Austria-Hungary	.....	443,983	612,959	604,389	1,109,863
Italy	.....	407,514	517,031	284,030	298,524
Belgium	.....	168,523	120,187	135,522	123,584
Roumania	.....	116,200	289,389	133,155	93,344
Greece	.....	99,626	28,880	86,228	139,178
Servia	.....	37,053	70,333	103,255	40,165
United States	.....	6,827	11,034	1,490	.....
Russia	.....	6,306	8,323	7,299	10,647
Switzerland	.....	36	.....	1,340	.....
Total (including exports from other countries)	13,900,668	17,652,485	14,405,588	13,715,561	13,712,866

IMPORTS AND EXPORTS IN 1893.

The following table presents the value of merchandise imported into and exported from Bulgaria in 1893:

Articles.	Imports.	Exports.
Animals, living	$49,869	$1,259,182
Animal products	22,036	528,060
Cereals and their products	335,674	14,399,638
Fruits, vegetables, seeds, and plants	67,033	93,179
Groceries	1,758,463	50,045
Spirits	723,979	7,739
Preserves and confectionery	212,963	7,749
Manure and waste	26,073	29,854
Fuel	180,863	15,381
Chemicals	112,487	859
Tan, colors, and varnish	232,392	24,341
Mineral oils, resin, glue, etc	509,724	2,845
Oils, fat, wax, and their products	638,277	7,017
Drugs	137,617	165
Perfumes, candles, and soaps	40,644	27,635
Stone, clay, glass, and their products	542,670	6,338
Metals and manufactures thereof	1,636,049	12,816
Raw materials and products of the wood industry	846,818	195,044
Paper (raw material and manufactures)	411,408	278
Hides and leather goods	994,206	300,874
Textiles (raw material and manufactures)	5,400,971	667,076
India rubber and gutta-percha, raw and manufactured	68,372	.....
Railroad cars, wagons, and boats	78,768	10,155
Machines, apparatus, and instruments	1,520,815	4,596
Hardware, toys, and fancy goods	154,144	76
Literature and art	52,735	1,294
Other articles	782,454	349
Total	17,537,504	17,652,485

ARTICLES OF IMPORT.

Coal.—Coal is brought exclusively from the mines at Cardiff and Merthyr, by way of Constantinople, where it is quoted at $4.25, and by way of Galatz, where the price is $4.44. The lowest retail price at Roustchouk is $8.11.

Cement.—German cement, which, in 1891 and 1892, shared 24 per cent in the total cement imports, amounted to only 9 per cent in 1893. The explanation for this is to be found in the higher price. German cement is bought chiefly in Carlstadt and Regensburg; French cement comes from Marseilles and Grenoble. The Belgians, who are competing successfully, deliver their cement free in Galatz for $1.39 per barrel of 330 pounds. The cement imports were as follows:

From—	1893.	1892.	1891.
Austria-Hungary	$20,651	$15,054	$16,634
Germany	3,860	9,264	15,054
France	7,720	6,562	13,896
Belgium	6,948	1,930	772

Nails.—The imports of wire nails were as follows:

From—	1893.	1892.	1891.
Germany	$48,250	$25,669	$74,884
Austria-Hungary	26,055	8,878	12,352
Belgium	33,582	24,511	22,195

The Belgian nails are put up in cases of 55 and 110 pounds (the former more commonly) or in kegs of 66 and 72 pounds. The method of packing the nails in cases tied with iron hoops is much liked by the merchants. Belgian nails cost, delivered free in Galatz, $3.618 per 220 pounds. The German article, coming chiefly from Gleiwitz, in Silesia, and, in part, also from Westphalia, costs $4.05.

Paper and paper ware.—Although Austria-Hungary furnishes more than 50 per cent of the entire paper imports, Germany is competing successfully in this line with the former, and has now a share of 10 per cent in the imports, half of which is printing and writing paper.

Sewing machines.—These are imported principally from Baden and Saxony.

Agricultural implements.—These come mostly from Saxony.

Firearms and ammunition.—The following table shows the imports of these items:

Articles.	1893.	1892.	1891.
Arms	$967,509	$703,099	$1,274,379
Ammunition	104,413	537,698	189,333
Total	1,071,922	1,240,797	1,463,712

It is remarkable how completely, within the short period of three years, the Germans have captured the market, so far as these articles are concerned. The subjoined figures show this clearly:

Year.	Germany.	Austria-Hungary.
1893	$941,454	$111,554
1892	595,212	622,811
1891	72,375	1,381,301

GERMAN TRADE.*

The Germans have succeeded in carrying out large commercial operations in Bulgaria. They have, in particular, obtained a firm footing in administrative circles, and have secured important contracts for the supply of weapons, ammunition, railroad cars, rails, and cement. In addition to these great and important commercial undertakings, the value of the Ger-

*From the Pesther Lloyd (newspaper).

man imports has risen uniformly and considerably in the course of the last few years, especially in the following articles:

Articles.	1893.	1892.	1891.
Machines, instruments, and apparatus	$1,034,572	$179,568	$113,010
Textiles	400,749	255,160	174,048
Metals and manufactures thereof	359,575	261,702	324,574
Leather goods	106,737	64,542	55,719

The firm of Krupp, in Essen, has for years had a permanent agent in Sofia, who, backed by the services which his firm has rendered to Bulgaria, has secured an almost unique position, and has, no doubt, aided, even though only indirectly, in promoting trade with Germany. A few years ago, two Prussian officials who had received leave for some years, entered the service of the Bulgarian State railroads, one as a member of the board of managers and the other as the head of the locomotive department, and naturally, though involuntarily, they have exerted some influence on the development of the railroad service. Both gentlemen have since left Sofia. Besides this, the German colony in Sofia, although very small, stands in direct connection with the German consulate-general, which actively assists German subjects and protégés, and German trade in general, in commercial matters, either directly or indirectly, through the medium of suitable persons.*

EUROPEAN COMPETITION IN THE IMPORT TRADE.†

While Austria-Hungary does not show any marked activity in the development of the Bulgarian import trade, other countries, and notably Germany, are exhibiting an eager interest. The efforts made by the Germans to secure the largest possible market would appear to be meeting with success. Their activity, shown by the agents at Roustchouk representing German merchants and exporters, has largely contributed to this result.

The Journal des Tarifs et Traités du Commerce states that the majority of the Austrian exporters deal directly with the small local traders, to whom they can not grant the same facilities as the German agents established at Roustchouk, following the fluctuations of the Bulgarian markets and taking stock of the situation. This journal thinks it desirable that those houses which will not appoint representatives at Roustchouk enjoying a fixed salary should, at least, send commercial travelers knowing the language of the country and previously instructed as to the conditions of the place, the credit of eventual purchasers, and possessing the necessary information.

In an article published in the Pesther Lloyd of December 21, Mr. Fr. Robert states that, for several years past, Austria-Hungary, England, and Germany have been competing for possession of the Bulgarian market. The

* The latest report of the Export Society of Saxony, in explaining the success of the Germans in the Bulgarian market, says that it is due not only to the energy of the merchants, but mainly to the fact that the latter study carefully the tastes, requirements, etc., of the people and manufacture their goods accordingly.

† Extract from the British Board of Trade Journal, February, 1895.

following statement shows the percentage share of these three countries in the import trade of Bulgaria:

Countries.	1888.	1889.	1890.	1891.	1892.	1893.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Austria-Hungary	27	30	39	42	35	36
England	30	29	24	19	23	22
Germany	7	5	5	5	10	13

These figures are not strictly accurate. Further, since the time that the principality has been connected with Europe by direct railways, and since the Danube navigation has developed, English imports seawards have diminished, while the imports from Austria-Hungary have increased.

Since 1892, the Bulgarian import trade has shown a rapid extension. Austria-Hungary has been foremost in the movement, but the English and German imports are increasing rapidly. To these two keen competitors with Austria-Hungary there should be added Russia, which has recently established very moderate prices for its glass, faïences, manufactured articles, and sugars. These prices will not fail, in the long run, to considerably develop the import trade from Russia.

Further, beyond the competition referred to above, the increase of import duties and the measures taken by the Sobranje in order to protect native industry should also be taken into account. The laws, recently introduced into the Bulgarian chambers relating to chambers of commerce and industry, agriculture, banks, and the encouragement of the industrial production of the country, will exercise a considerable influence on Bulgarian industry. The facilities of every kind, granted to the factories established in the country and the official preference shown for articles of native manufacture, will militate against the importation of numerous foreign articles.

Mr. Fr. Robert, in conclusion, expresses the belief that Austro-Hungarian trade in Bulgaria is being gradually superseded.

A LAW TO ENCOURAGE NATIVE INDUSTRIES.

Following is a translation of a bill submitted by the Minister of Commerce to the Sobranje, and passed by the latter in January last. The Government expects, by the facilities offered, to attract foreign capital into the country, as industrial development is greatly impeded by the poverty of the people. The bill reads as follows:

ARTICLE 1. Anyone who, within a period of ten years from the passage of this law, opens a factory for the production of any of the articles enumerated below, shall enjoy the facilities prescribed in this law, if his factory is supplied with proper instruments of labor, and if a capital of at least 25,000 francs (about $5,000) is invested in the factory, and if he employs at least twenty-five work people.

The Minister of Commerce and Agriculture will decide whether the factory which desires to profit by the above-mentioned facilities fulfills the conditions above stated, and will base his decision on the certificate delivered by the local authorities. In the event of disagreement, the interested party may appeal to the council of ministers, who will give a final decision.

ART. 2. The articles which a factory may produce in order to claim the facilities are the following: (1) Yarns, woven goods and cotton, silk, flax or hemp, and cordage; (2) stearin candles; (3) earthenware table service, stoves, pipes, and fire bricks; (4) window glass, glasses, bottles, etc.; (5) sugar, paper ware, and all kinds of paper; (6) starch; (7) products of chemical industry; (8) matches and glue; (9) products of mineral and metallurgical industries, manufactures of iron and of other metals of the country, cement, and lime.

ART. 3. Factories which are established under the above conditions and for the above-mentioned articles are (1) exempt during fifteen years after their opening from the trade tax, and from the land tax; (2) exempt from the stamp tax on the contracts which may be concluded for the erection of the factory as well as from the tax on the shares which may be issued for that object; (3) the machinery and their various parts which are imported from abroad for the erection and for the support of the factory are exempt from customs duties, and are transported on the State railways at a reduction of 35 per cent on the existing freight tariffs; (4) the raw material which the factory may require, and which is not found in the country, or only in an insufficient quantity, is exempt from customs duties, and the council of ministers, after consultation with the chambers of commerce on each individual case, will decide what are the raw materials not to be found in the country, or only in insufficient quantity, and the raw materials which are imported from abroad, as well as those which the factory purchases in the country for its own use, are transported on the State railways at a reduction of 35 per cent on the existing tariffs; (5) the products of the said factories are transported on the State railways at a reduction of 35 per cent on the existing tariffs.

ART. 4. In the case where the raw materials which the factories may require are lying underground, and are found in lands belonging to the State, or to the commune, they are granted to the factory in conformity with the law regarding mines and quarries.

ART. 5. The products of these factories have, in respect to the requirements of the State, or of the commune, the preference over foreign products, even if the price of the latter, with customs duties included, should be 15 per cent higher; the qualities, however, are to be alike.

ART. 6. The State may, in order to meet its requirements, enter into contracts with these factories for a period of at most five years. These contracts are concluded with the council of ministers for the purpose of encouraging home industry, and can only be made before the factory is established. The State may grant gratuitously to the factories which fulfill the conditions prescribed in article 1, the necessary sites on State lands and on waste lands. If on such places there is water power, the latter is also given to the factory, free of charge. These grants will continue as long as the factory exists; if the latter, however, is closed during a period of at least two years, the ceded site reverts to the State.

ART. 7. In the event of the owner wishing to connect his factory by a road or a railway with a State road or State railway, the necessary ground will be granted gratuitously, if it belongs to the State or to the commune.

ART. 8. The factories now existing in the country, and which fulfill the conditions prescribed in articles 1 and 2, shall profit by the facilities enumerated in this law. Those already enjoying privileges granted by the national legislature, greater than those offered by the present law, shall retain such privileges until their expiration.

ART. 9. The establishments making goods of wool and of leather, of Bulgarian origin, shall profit by the rights enumerated in article 3 (sections 4 and 5) and in articles 4 and 5.

ART. 10. In regard to factories for paper, sugar, yarns, fabrics of cotton, linen, or silk, glass, candles, cement, and lime, the manufacturer will have the monopoly for his special industry during a period of ten years—for cement and lime for a period of fifteen years—and within a prescribed radius. The council of ministers, on the proposition of the Minister of Commerce and Agriculture, will decide whether the establishment should enjoy the above monopoly, and will fix the prescribed radius.

ART. 11. Regulations to be issued by the Minister of Commerce and Agriculture, and approved by the council of ministers, will state the details for the application of this law.

RAILWAY DEVELOPMENT.

In 1892, the Bulgarian Government contracted with the Austrian Land Bank for a loan of 125,000,000 francs ($24,125,000) for the completion of the railway system in the principality and the construction of new harbors at Varno and Burgas.

It has now been decided by the council of ministers to begin the construction of the following lines:

(1) Sofia–Roman, a distance of 109 kilometers (67.73 miles), at a cost of 22,000,000 francs ($4,246,000).

(2) Roman–Plevna–Polikranishte–Shumla, 333 kilometers (207 miles), at a cost of 25,000,000 francs ($4,825,000).

(3) Polikranishte–Tirnovo–Nova-Zagora, 110 kilometers (68.3 miles), at a cost of 16,500,000 francs ($3,184,500).

(4) Polikranishte–Roustchouk, 105 kilometers (65 miles), at a cost of 9,500,000 francs ($1,833,500).

(5) Gabrovo–Selvi, to a point on the central line, 70 kilometers (43½ miles), at a cost of 6,000,000 francs ($1,158,000).

In addition to these, the following lines have been proposed, and will be built soon after the completion of the above-named lines:

(1) Pernik, south to the Turkish frontier, 80 kilometers (49.7 miles), at a cost of 9,000,000 francs ($1,737,000).

(2) Mesdra–Wratza–Widdin, 130 kilometers (80.8 miles), at a cost of 8,450,000 francs ($1,630,850).

(3) Philippopolis–Karlofer–Kasanlyk–Nicolaevo, 139 kilometers (86.4 miles), at a cost of 7,645,000 francs ($1,475,485).

THEODORE M. STEPHAN,
Consul.

ANNABERG, *April 13, 1895.*

BRAZILIAN PORT CHARGES AND CURRENCY.

I have given the subject of "commercial customs," or "usages," of this port (Rio de Janeiro) careful attention with the view of advising American shippers, masters, and owners as to their rights, and of pointing out to them certain past errors that have occasioned them losses.

As this is a "collect" port only for sailing vessels—all freights being prepaid when coming by steamers—it is especially important that our sailing vessels, depending on miscellaneous "chance" charters for business, should know what to expect after arrival in this port.

TOWING CHARGES.

On arrival at the entrance of the bay, it is generally necessary to be towed into port. Masters find, generally, one or two boats there awaiting them. Contracts are then made for towing in and out for about £30

($145.98), more or less—never more and rarely ever less, unless the vessel is of a line coming here regularly. Such vessels pay about £12 ($58.39), by previous contract, and have the right of being "retowed" to any number of anchorage grounds that may be required by the consignees or customs authorities during discharge.

It is important that all masters should bear in mind that vessels with general cargo may be required to make several changes of location during discharge, as the customs authorities will only receive certain cargo at certain docks or warehouses.

Masters should govern their towage contracts so as to include all such services, or else they may have double towage fees to pay.

STEVEDORE SERVICE.

The docks being practically unimproved, vessels may depend on the probability that cargo will have to be discharged into lighters. Here, the stevedores understand each other rather too well, and it happens often that one vessel pays more than another for the same service.

Unfortunately, there is insufficient competition among the stevedores and a deficiency of lighters.

The custom is that all cargo shall be landed at the risk and expense of the vessel. The consignee denies all responsibility for cargo until it is duly landed. Heretofore, the scale of rates for stevedores and lighterage has been, on general cargo contracts, for the former, 1$500 reis* (about 30 cents) per ton, and for the latter, 5$800 reis ($1.06) per ton. The total for landing general cargo per ton is about $1.35. Within the last week the laborers have been on strike, and new rates have been established at about 33⅓ per cent advance. This will, of course, advance the cost of landing cargo.

COSTS OF DISCHARGING LUMBER CARGOES.

In the case of lumber, the following is the method and the old rate of computing cost of discharge: Each deal of 378 superficial feet, 3$300 reis. Estimating each 1,000 superficial feet at 2¼ tons, the result is 12$474 reis per 1,000 superficial feet and 5$100 reis per ton. The milreis being worth now about 18 cents in United States gold, we get the cost of landing a full cargo of lumber at $2.25 per 1,000 feet, or $1 per ton. Under the new rates of wages for laborers, the above costs will be increased.

The following is an incomplete list of "general business" stevedores of this port: L. S. Andrews & Co., Margalhães & Co., Companhia Estevadora, Fairbairn & Co., Lobo & Co., John Carew & Co., Needham & Co., Companhia Maritimes, J. Rodrigues Caridade & Martins, and others. I give

* Although the milreis, according to our Treasury valuations, is the unit of value in Brazil, all commercial and general business valuations seem to be given in reis, designated as herein by the consul-general. All figures on the left of the dollar mark represent milreis; all figures on the right, reis. Thus, 1$500 represents 1,500 reis, or 1½ (1.500) milreis. Gold being the nominal standard of Brazil, the United States Treasury values the milreis at 54.6 cents. Paper money, it would seem, is the actual currency, and its fluctuations are valued by the gold standard. Thus the consul-general throughout this report values the paper milreis at about 18 cents.

the list for information of masters. There are certain responsible concerns in the list, and I am advised by them that they stand ready to make special contracts to protect vessels from losses by failure to collect their just demurrage. Forms for making such written contracts can be obtained at this consulate-general.

DEMURRAGE CUSTOMS.

As to demurrage, nearly every charter party provides for fixed and specified daily demurrage, after the agreed number of days for completing the vessel's discharge have elapsed. Such amount averages about $75. The charter party also provides that the discharge shall be at the risk and expense of the vessel. Now, the custom being that the vessel must land her cargo, the master is forced to employ stevedores. Such act of engagement by the master makes the stevedore the agent of the vessel. Under that pretext, the consignee may take shelter and refuse to pay demurrage to the vessel by claiming that the delay was from no fault of said consignee. The stevedore, not acting under a contract carrying any forfeit clause, does not object to being blamed, and the vessel has no alternative but to suffer the loss of demurrage. It is not unusual for a lumber vessel to lose from $800 to $1,000 on account of the demurrage uncollected here.

There appears to be two ways to overcome this source of loss to vessels—first, let charter parties provide that while the risk and expense of discharge shall be borne by the vessel, yet the stevedore and lightermen shall be the agents of the consignees; second, the more practicable method would be for the master to make a written contract with responsible stevedores, in which the latter assume all liability for the vessel's proper demurrage demands under the charter party, and pledge the amount of the vessel's indebtedness to them for the stevedoring and lightering as a fund to make good such demurrage to the vessel.

I have discussed this with certain responsible stevedores, and I am assured by them that they stand ready to make such contracts. Masters can receive blank forms for such contracts at this consulate-general.

Why should this port stand almost alone, among the many other important ports of the world, as a demurrage defaulting port? For no imaginable reason except that there has been a lack of tact on the part of masters in providing a method of action effective for outweighing a technical pretext of consignees, but a pretext which would, undoubtedly, hold good in law. Should masters adopt the plan just suggested, they should bear in mind that the stevedore would have the right of recourse for demurrage against the consignees of the vessel, and the master should be careful to do nothing prejudicial to the validity of the stevedore's rights. Just as the charter party provides, the master should give notice daily in writing of demurrage claims. Such a course would leave the question of demurrage a matter to be settled between stevedore and consignee, and being a matter between themselves, each would be forced to plead his own cause, and the vessel's just claims would be settled.

CONSIGNEES AS AGENTS OF VESSELS.

Another feature of charter parties made in the United States for this port deserves severe criticism. Usually, the consignees are made the agents of the vessel, and they receive 2½ per cent on the vessel's entire freight money for acting as agents to attend the "inward" business of the vessel. As a matter of fact, the master attends to all the business of the vessel, and the consignees, acting as agents, rarely ever perform any indispensable service. But they are at once the consignees, the business agents, and the vessel's only debtors in this port. All these combined authorities and powers put very strong shackles on the master, and he must take such settlement as he is given, or else remain here an indefinite period. As the freight money is payable only after completion of discharge of cargo, it often happens that the cargo has been distributed in many different directions, hundreds of miles distant, before the master can demand payment of freight. It is entirely impracticable to attempt to hold a lien on the cargo until completion of discharge, as the storage capacity of the Government warehouses is limited and storage is charged on goods remaining therein beyond a very short period. Therefore, the master practically has no recourse on his cargo for the collection of his freight money, although such provision is made in his charter party. It is an obviously absurd proposition, from a business standpoint, that one should pay his debtor a commission of 2½ per cent to represent him in the settlement of an account with himself and empower his debtor, at the same time, to make such settlement as seems to him proper. Of course, concessions have to be made occasionally by owners, or else no charter party could be contracted and the vessel would be idle.

These criticisms and comments are not intended for many highly respectable and correct houses here, but only for those who have in the past "fleeced" American vessels consigned to them.

It is indeed a pity that our vessels have gotten into such ruts. How much more business-like and satisfactory would it be if they would all combine and support some reliable ship brokerage firm in each large foreign port. Such firm could have no interests contrary to those of the vessels consigned to them.

It rarely happens that a vessel requires more than $100 to $200 during discharge, so the agents have but little service to perform for the vessels.

DRAFTS DRAWN BY MASTERS.

As to masters drawing drafts on themselves against their freight money, before sailing from the United States, and made acceptable here and payable within fifteen days after arrival or upon completion of discharge, if sooner made, I have to advise that such practice is financial butchery of the vessel's interests. In the first place, but few cargoes are susceptible of being discharged within fifteen days, and the freight money being due only after completion of discharge the master's draft must go to protest. Although the consignees are paid 2½ per cent for attending to the vessel's inward busi-

ness, they refuse to advance money (perhaps justly) to pay the master's draft. The average cost of such protest is about $5.50. The bank here holds the draft patiently until completion of discharge of cargo; when settlement is made, interest is added for time beyond the fifteen days, and, as it is then a cash transaction, only a sight rate of exchange is used. As there is no competition in this market among the banks for sight rates, the bank names an arbitrary rate, which is quite costly, usually, for the vessel. The business of foreign exchange is all done here on a ninety-day rate, and in that, alone, is there any competition.

I know of one transaction recently in which the master could only obtain a sight rate of 8 7/8d., although he was forced to receive his freight money from the consignees that day at 9 1/16d. for each milreis. The amount of his freight being about $11,000, and the amount of his draft being £1,825 ($8,880.45), the vessel lost in the rate of exchange between "sight" and usual rates at ninety days the sum of 1,680$000 reis, which, at 18 cents for each milreis, the then current value, made a loss to the vessel of $302.40 with interest also to be added on his draft drawn at home and discounted by the owners. As the owners had already paid interest when the draft was discounted, the loss here was a clear loss.

MEASUREMENT OF CARGO.

When a master signs bills of lading for cargo and indorses thereon "measurement unknown to master," it is held here that his freight must be paid to him upon certificate of actual measurement here. That may or may not occasion the vessel a loss, and I am of the opinion that, as such settlement is forced on the master here, by the rule of the port, he should accept it under official protest before the consul-general of the United States and then, upon return to the United States, the vessel can recover from the "charterers," upon filing certified copy of such protest, together with a certified copy of the inspector's certificate of exportation, given at the completion of receiving the cargo. It is not an unusual occurrence for a vessel to lose several hundred dollars here by reason of short measurements certified in this port.

Stone ballast costs here now about 4$500 reis (about 80 cents) per ton on board. Steam coal costs 38s. put in bunkers and trimmed. Only Cardiff coal is sold.

The usual gratuity to the custom-house inspector is 2$000 reis (about 36 cents) daily during his inspection of discharge of vessel.

THE HARBOR OF RIO DE JANEIRO.

This is the best and largest natural harbor in the world. In the main channel, which is half a mile wide, there are perhaps 30 fathoms of water, with ample anchorage room in the bay for many thousand more vessels than will ever be here at any one time. Unfortunately, the water is not sufficiently deep near shore, and no money has been expended in deepening it. The

docks are practically unimproved, and there is no immediate outlook for improvement. Some two or three years ago a concession was granted to a private syndicate to improve the water front, according to then specified plans, but nothing has been done, and it is supposed that the plans were not approved by capitalists on the ground of excessive cost in constructing a stone wall front in deep water with earth filling to the same from the shore. Modern skeleton piers of iron could be easily and cheaply constructed if a concession could be obtained, and this would then be a model harbor, both for anchorage and for handling cargo.

CONVERSION OF FREIGHT MONEY.

There is another point, in the matter of "exchange" rates, on which masters should be well advised. They should be careful of permitting their total freight money to be converted into milreis or foreign currency. Charter parties usually provide that the settlement of freight shall be at $4.84 for each pound sterling, and that masters shall have the right of receiving freight money in approved bankers' bills on London, or in the currency of the country at the current rate of exchange. Consignees very often gain largely by the master agreeing to take the account, settled on a "current-rate-of-exchange" basis. Masters should advise their consignees that they desire only a portion of their freight money converted into foreign currency. As soon as possible, an accurate estimate of the amount of foreign currency needed for the payment of the vessel's accounts should be made by the master and the consignees or agents advised of the amount. The master should either draw that money in foreign currency and pay the vessel's bills in port, or else he should "O K" them and have the consignees pay them, notifying the consignees at the same time that they must not convert the vessel's entire freight money into foreign currency, but only enough to pay the necessary expenses of the vessel; and that the consignees will be required to deliver, at their own risk and expense, the vessel's surplus freight money in the form of approved London bills, in pounds sterling.

The reason for this course is obvious when it is borne in mind that the smallest fractional loss in an exchange rate may mean hundreds of dollars of loss to the vessel. Should consignees convert the whole freight money into foreign currency, and then, afterwards, reconvert the ship's net freight money back into pounds sterling, there are two exchange conversions made at the vessel's expense, when, under the charter party conditions, neither is permissible. A due regard to this advice will probably save vessels many thousands of dollars, as the same conditions doubtless prevail in many foreign ports, and this rule of settlement is equally applicable everywhere.

Then, too, there is still another rule of settlement here, unknown to many masters of vessels. The rule of commerce is that the rate of exchange to be used in the settlement of a vessel's account is that rate which was the average rate of the day on which the vessel completed discharge of cargo. Such average rate is determined by posted notice of the "Junta Commer-

cial," or chamber of commerce of this city, which declares each day, at its close, the "high" and the "low" of exchange rates of that day, taken from the records of the banks. Of course, the average rate for settlement is the middle point between "high" and "low."

EVILS OF A DEPRECIATED CURRENCY.

Especially is it important to look carefully to exchange rates in all countries having depreciated currencies. Such rates are liable to fluctuate violently and suddenly. An unreflecting man has no idea what a fractional difference in exchange rate really means. When the milreis (currency unit of Brazil) has an exchange value between 9d. and 10d., one-eighth of a penny difference in rate of exchange averages about 333 reis on each pound sterling. These 333 reis would be worth about 6 cents in United States gold, so that one-eighth of a penny loss in exchange on £1,000 would be about $60 in United States gold.

It is important to know that exchange rates are monstrously fickle throughout Central and South America. The gold value of the currency being far below its face value there is an irregular, spasmodic fluctuation in the value of the money in the hands of the people, from hour to hour and from day to day. The business of buying and selling money itself is by far the most important branch of business in this country. The three English banks and one German bank doing business in Brazil have made vast sums of money out of the anomalous situation here. The two leading English banks have a combined paid-up capital stock of about £1,250,000 (about $6,082,500). They have already made and passed to their "surplus" account about $5,000,000, and during the last two years they have been earning about 25 per cent annually. But few individuals have profited by these exchange fluctuations. The banks have done so because they have made commissions both in buying and selling. They have run but little risk because buying kept them covered against selling and their profits were assured.

Currency in circulation here has no certain value of itself, and its value is fixed only so far as it has debt-paying value at its face. That is fixed by legislation of the country. Its purchasing value is such an unknown factor that no conservative calculations can be made by merchants, and the result is that all merchandise is sold to the people at a large percentage of increase over cost. The merchant is forced to do this or else he may find, after buying his goods at a fixed sum and paying for them with a sum having a certain gold value at that time, that when the goods are all sold by him, the currency he has received for them has so depreciated in its exchange value that he is poorer than when he commenced business. And so it goes. He sells at a profit large enough to cover such probable contingency; the people who purchase of him pay the difference.

This constant fluctuation of the value of the currency of the country has not been produced by any unfavorable act of legislation. On the contrary, the Government has done its best to make the currency good for its

face value by giving it a full debt-paying power. The giving of such debt-paying power to a currency which commerce has declined to receive, except at a constantly depreciating value, has resulted in this country in a loss by creditors of about 66⅔ per cent of their credit assets and a corresponding gain by debtors, as they can pay gold debts with a currency actually worth to-day only about 33⅓ per cent of face value.

But let no one presume for one moment that the poor and the laboring classes have been benefited. On the contrary, they have suffered, and beyond the creditor classes, as they have felt the effects, in personal suffering, while the creditor classes have felt them only in pocket.

I am well advised as to the condition of the poor of both Brazil and the Argentine Republic, and I am positive, from the light of facts before me, that in neither of these great countries—one of which is greater in area than the United States—has skilled or unskilled labor been paid in late years commensurately with the depreciation in the currency. All costs of living have been advancing, as currency value has depreciated. In consequence of having been paid with a greatly depreciated currency, at a rate of wages but immaterially increased, and, of having to pay increased prices for commodities consumed, all labor has experienced the greatest suffering, and no outlook for relief is yet apparent.

Any currency so founded as to be liable to fluctuations in value adds another element of uncertainty to business, and instead of its acting as a tranquilizer of business it becomes the one great disturbing element of commerce. It becomes an article of traffic, to be bought and sold both in public and private, and there then remains no fixed measure of value on any article of commerce. At least, such is the experience of this country.

W. T. TOWNES,
Consul-General.

RIO DE JANEIRO, *May 23, 1895.*

EGYPT'S FINANCES IN 1895.

Thirteen years ago Egypt was insolvent and its securities almost unsalable at one-half or two-thirds their face value, as a consequence of Ismail's prodigality, while to-day the country is in a condition which, comparatively, might be called financial prosperity.

The country's emergence from practical bankruptcy, with its obligations quoted nearly as high as British consols, seems almost incredible; and there can be few better object lessons in economical progress, through administrative reform, than is presented by Egypt of the present day. Tewfik Pasha inaugurated the good work, and the administration, headed by the present Khedive (Abbas), is carrying it forward with well-directed energy.

It is a popular fallacy that the debt has been decreased with the British "occupation" of the country, for it has been materially added to. Indem-

nification of those whose property was destroyed by reason of the Arabi rebellion, with the attendant bombardment of Alexandria; the military fiasco resulting in the loss to Egypt of the Soudan; the construction of irrigating dams and canals, and other necessary expenditures, have increased the national debt by nearly $40,000,000. But the character of the security—the intrinsic worth of the country—has been so improved that European owners of bonds have willingly reduced the rate of interest nearly one-half. It has never been possible to determine the nationality of holders of Egyptian securities, but a British financier estimates that five-eighths fairly represents the stake of his country people. If correct, England's share of the debt in 1882, when the "occupation" began, was about $296,875,000, worth in the market perhaps half that sum, but now valued at $298,062,500. Naturally, the increase has benefited all bondholders—French, German, Austrian, Russian, and Italian, as well as British—in the same proportion.

The details of the debt at the present time, and its amount, are:

Guarantied loan, 3 per cent (quoted 6½ premium)	$42,442,866
Privileged debt, 3½ per cent (quoted 1¾ premium)	142,854,798
Unified debt, 4 per cent (quoted 4¾ premium)	272,037,625
Domains loan, 4½ per cent (quoted 7 premium)	19,418,421
Daira Sanieh loan, 4 per cent (quoted 2½ premium)	32,191,589
Total bonded debt	508,945,299

Applying, as it does, to an agricultural population of 7,000,000 people, in a land where manual labor is worth less than 20 cents a day, and to only about 9,000 square miles of tillable soil—an area about as large as the State of New Hampshire—this debt is almost overpowering. Englishmen and Frenchmen owe more, but their resources are greater and their creditors their own countrymen. The American, whose national indebtedness is too trifling to be felt, may well pity the lot of the Egyptian man, woman, and child, who owe $72.70.

Financial equilibrium has been brought about after years of hard work by checking waste and dishonesty, inspiring keener industry, developing the resources of the soil, and adding to the cultivatable territory by irrigation. This is the practical phase of the Egyptian question to the independent observer who finds little interest in the never-ceasing agitation going on in England and France on the subject of the political present and future of the domain of the Khedive.

The purchasing power, held by many as indicative of a nation's financial condition, has kept pace with the general advancement. In 1882, the imports represented $32,127,650; in 1890, $40,409,635; and in 1894, $46,330,000. Exports for the same year—cotton, cotton seed, sugar, and grain—were valued at $54,977,850, $59,373,490, and $59,420,000, respectively. More than half the foreign commerce is with Great Britain. The cotton crop is wholly exported, and brings in cash to the country nearly $45,000,000. The United States pays Egypt nearly $3,000,000 annually for long-stapled cotton. Shipping at the port of Alexandria has nearly

doubled since 1882, and last year the arrivals represented 2,221,145 tons. That of French ships has multiplied at a rate unequaled by any other flag.

To carry on the government now requires about $50,000,000 a year. The budget for 1895 allows expenditures of $48,000,000, and is based upon estimated receipts of $51,300,000. The heaviest outlay is for interest on the foreign indebtedness—$18,854,185—while the annual tribute to the Sultan consumes $3,365,205 more. The Khedivial family and palace expenses call for $1,159,305. The army and military police, and Egypt's share of the cost of the British army of occupation, cost $2,381,085, and civil and military pensions, $2,150,000.

Direct taxation on land, date trees, etc., produces $25,000,000, the balance of revenue being made up by customs receipts (8 per cent on all imports and 1 per cent on exports), profits from the salt monopoly, stamp duties, receipts from railways, post-offices, telegraphs, lighthouses, port charges, and court fees.

A reform of great importance, now in progress and to be completed in 1897, is an adjustment of inequalities in the land tax. The scheme now in force is full of anomalies, and it is not unusual to find land rented at $30 or $35 per acre paying only $2.50 in taxes. In olden times, there was no rule for its collection, and the collector went prepared to take from the farmer every penny his crops had produced, and then flog him into borrowing on mortgage any additional sum his corrupt master felt in need of. Not until Tewfik Pasha's reign, was a receipt of any sort given the peasant to show that he had paid his taxes and that nothing more was due for that year. Simple as it was, nothing more potent for alleviating the position of the Egyptian people was ever inaugurated, for it benefited every tiller of the soil. This humane step was taken prior to the coming of the English in 1882.

The present scheme of taxation is admitted to be arbitrary and inequitable. A definite tax is specified for a large tract, which only a portion of the land is capable of paying, and the work in hand is to prepare a new schedule based upon rental values, that each acre may be assessed commensurately with its producing capacity. The total tax of $23,900,000 on the 5,237,200 acres of cultivated soil is not to be increased, but equalized, meaning that the small holder is to pay less per acre, and the pasha landlord, once powerful enough to have his thousands of acres assessed at whatever he chose, will pay more proportionately. The glaring inequalities had been brought into prominence by the low prices of crops, and a remedy was imperative.

The work is being thoroughly done. The commissions to determine the rental value are severally composed of a delegate from the Ministry of Public Works, one from the Finance Ministry, and two landowners chosen by the governors of the provinces from a committee elected by the people. One landowner belongs to the province, and the other to a neighboring province. At least three members of each commission must be present while the work is being carried on, and the whole is supervised by an English expert representing the Ministry of Finance.

It will surprise American farmers to learn that some husbandmen in ancient Egypt pay a land tax of $8.20 per acre annually, and that the average tax for the whole country is $4.56 per acre. The maximum tax referred to is on lands in the Nile delta, possessing such marvelous richness that 5 cwts. or more of cotton per acre is produced each year with comparative certainty and ease.

The land tax has ever been the millstone about the neck of the Nile farmer, sapping his energies and stunting his intellectual growth. The ancestors of the peasant now toiling from long before sunrise until after sunset, nearly every day in the year, have been farmers since the world began, and are wretchedly poor.

To-day's prosperity of the fellah, permitting him to have a few dollars after harvesting, and occasionally take a holiday to attend a religious fair in the neighborhood, is of recent origin and slow growth; it began with the introduction of tax receipts, and has been nurtured, at intervals, by trifling reductions in taxation, as the area of productive Egypt has been added to by irrigation at a rate in excess of the Government's pecuniary requirements.

Egypt's obligations to European creditors are sufficiently burdensome and menacing to compel the small farmer to keep out of the clutches of the money lender at his door, if he can. Nevertheless, the indebtedness secured by farm mortgages is greater than it should be; critics allege this as certain proof that the boasted prosperity of the country is fictitious, and exhibit statistics to coincide with their argument. Critics of another sort array figures calculated to show that the aggregate mortgage indebtedness is very small—less than $40,000,000—and that it is the holders owning from 50 acres upwards who have pledged their property; and, further, that they have done this to buy more land confident of an appreciation of values. It is a fact that the proportion of small holders borrowing by mortgage is trifling, and they are the people whose welfare first deserves consideration.

It is claimed that less than 9 per cent of the land of the country bears domestic mortgages, and that the average throughout Egypt is only about $8 an acre. The actual average value of the cultivated soil is claimed by experts to be $115 an acre.

One of mathematical mind, discovering that the foreign indebtedness represents definitely $97.17 on every productive acre, and adding the $8 of home burden—probably underestimated—finds that but little equity remains to the Egyptian, who, for more than seven thousand years, has been the most industrious and light-hearted husbandman. Simply speaking, it means an equity of only $10 an acre, or, each inhabitant averaging exactly three-fourths of an acre of tillable soil, a remaining "margain" of $7.50 per person. A financial analysis eight or ten years ago would have shown the account to be on the opposite side of the ledger.

FREDERIC C. PENFIELD,
Agent and Consul-General.

CAIRO, *June 22, 1895.*

NOTES.

Horse Meat for Germany.—Consul Tingle writes from Brunswick, May 29:

I have had so many inquiries from the United States in consequence of my report on the possibility of importing American horse meat into Germany* that I have thought it best to print a few facts which might be of service to intending exporters. In the first place, it is my opinion that the business can best be handled through the large American packing houses, which can afford the expenditure for the necessary plant, and, by shipping in large quantities, can more easily build up a profitable trade. These packers would naturally buy from the smaller western dealers and raisers, and thus the business would be vastly simplified. It would be well, therefore, for intending exporters to enter first into correspondence with some one of the large packing houses expressing a readiness to furnish horses for export and suggesting cooperation. As to details, it would be much better to ship the horses on the hoof, consigning them to a large port like Hamburg. Here, however, large stables would have to be furnished until the horses could be sold or slaughtered. This, of course, would be beyond the means of any but a large company. The reason for shipping on the hoof is that the duty on live horses is but $4.75 each, while if the meat alone is shipped some objection similar to that now made against American beef might be brought forward. If, however, the horses are brought over on the hoof, not only is the duty much less but examination, showing the healthy condition of the animals, can be made readily. The meat is sold in Germany at 7 cents a pound for fresh meat, and 12 cents a pound for smoked meat. The German horse butcher pays on an average $35 for horses. It should be borne in mind that these prices are for worn-out horses. The fresh American horses should bring better prices. Suppose the large packing companies deliver the fresh American horses in Hamburg at $30 per head. Taking out the duty—about $5—and the transportation and the feeding and care on the way—$5 more—there remains a net price in America of, say, $20 per head, out of which must come the packers' and horse raisers' profit. Should it be desired to ship horses direct to Hamburg, it would be wise to first enter into correspondence with the principal horse-dealing firm in Hamburg, Claus Olde, Schulterblatt Altona, Hamburg. Horses could, by reason of the splendid roads in Germany, be delivered on the hoof from Hamburg or Bremen to any German town at small cost. It is in this manner that Russian horses are brought into Germany for sale.

American Horses in Western Germany.—Vice-Commercial Agent Murphy writes from Luxemburg, June 29, 1895:

As of possible interest, I transmit herewith a translation of a clipping from the Luxemburger Zeitung, of June 28, in which favorable mention is made of the importation of American horses into western Germany.

"TRIER, *June 26.*

"That the horse markets have recently been more largely attended than heretofore is due to the fact that whole shiploads of horses come from America. These are purchased in America by agents sent over for the purpose by a number of North German dealers who have

* Printed in CONSULAR REPORTS No. 176 (May, 1895), p. 121.

united in this speculation. In spite of transportation and insurance charges—190 marks ($45) per horse—their price here is less than that asked for European horses. These horses are said to be excellent workers. (Trier Zeitung.)"

Consumption Tax in Madagascar.*—Consul Wetter writes to the Department from Tamatave April 23, 1895:

By order of March 21, 1895, the previously existing city tax and consumption tax on rums, liquors, spirits, and fine wines are abolished and the following schedule established instead as a consumption tax:

Description.	Unit.	Duty.
Rums and alcohols	Per 100 liters* of pure alcohol	$17.00
Champagnes and sparkling wines	Per case of 12 bottles or liters	.86
Absinthe:		
Peruod and other brands	do	.53
Ordinary	do	.20
Vermouth:		
Noilly and other brands	do	.37
In barrels	Per 100 liters	3.08
Ordinary	Per case of 12 bottles or liters	.19
In barrels	Per 100 liters	1.58
Amer picon, bitters, etc	Per case of 12 bottles or liters	.52
Liqueurs:		
For the table	do	.73
Ordinary	do	.35
Chartreuse	do	1.56
Cognac, whisky, and brandies	do	.54
Wines:		
Sweet—		
In barrels	Per 100 liters	8.00
In bottles or liters	Per case of 12 bottles or liters	.70
Fine—		
In bottles (liters)	do	.50
In barrels	Per 100 liters	2.75
Other drinks not herein named:		
In bottles (liters)	Per case of 12 bottles or liters	.50
In barrels	Per 100 liters	4.10

*1 liter=1.0567 quarts.

Alcohol and wines for pharmaceutical use and all articles for use for expeditionary corps are free of duty.

An exportation tax on all goods arriving, or on hand, intended for reexportatior, has also been fixed as follows:

Description.	Unit.	Duty
Rum	Per 100 liters of alcohol therein contained	$0.30
Other beverages	Per case of 12 bottles or liters	.10
Wines in barrels	Per 100 liters	1.08

All importers of rum must produce a certificate from the customs of the country of origin, stating the quantity of rum and its specific gravity. All false declarations as to kind, specific gravity, or quantity, will be punished by a deduction of double the consumption tax.

*See "Tariff and Other Taxes in Madagascar," CONSULAR REPORTS No. 176 (May, 1895), p. 165.

Improvements in Bahia.—Under date of May 1, 1895, Consul R. P. McDaniel transmits the following information concerning improvements in Bahia:

There has been more building in Bahia during the past twelve months than for the same period in many previous years, and much more is projected for the ensuing year. A number of residences, many of them palatial in size, are in course of construction. Buildings are rented months in advance of their completion, and at this time there are no vacant houses in the city. The improvement most important to commerce is the coaling depot of Messrs. Wilson Sons & Co. (limited), of London and Cardiff, which has been in course of erection for the past eighteen months. It consists of six sheds, each 100 feet long, 40 feet wide, and 26 feet high, capable of storing 10,000 tons of coal at one time. The depot will be fitted up with all the latest appliances for minimizing the quick loading and discharging of coal. The ground on which the depot stands has all been reclaimed from the sea, and is retained by a sea wall built of concrete and stone. From this wall a wharf extends 100 feet. In addition to the depot, the same firm has under construction machine and carpenter shops, especially fitted up for the repairing of ships, etc. Adjoining these shops is a small slip way and dry dock. Messrs. Wilson Sons & Co. say they will have the whole works completed within the next three or four months.

Flax Production of Ireland.—Consul Taney, of Belfast, makes the following report under date of June 11, 1895:

From the proceedings of the annual meeting of the Flax Supply Association, held recently in this city, the following information was condensed from the proceedings: In the years 1893 and 1894, the yield of flax per acre in Ireland was good, but for 1894 the character of the fiber did not stand so high as for 1893, owing largely to too much rain and too much sunshine at a critical stage. In 1893, the acreage was 67,487 acres; in 1894, 101,031 acres, an increase of 33,594 acres, or 49.7 per cent. In 1893, the yield per acre was 482.02 pounds; in 1894, 488.88 pounds, an increase of 1.42 per cent. In 1893, the total yield was 14,513 tons; in 1894, 22,061 tons, an increase of 52 per cent. In 1893, the total value was $4,943,904.66; in 1894, $4,944,308, the value per acre in 1893 being $73.26, and in 1894, $48.88, or a decrease in 1894 of 33.4 per cent. The crop for 1894 is the largest ever produced since 1886, when it was 23,151 tons. Notwithstanding this large increase in production, the decrease in importation has fallen off only from 28,543 tons to 26,881 tons.

The decline in the export of linen goods from this consular district, as between the years 1893 and 1894, is 5 per cent, but the association does not look upon this as discouraging, because the decline was less during the same period than that of any of the chief textiles, as, for instance, woolen and worsted manufactures have diminished 14½ per cent; jute manufactures, 12½ per cent; silk manufactures, 19¼ per cent; and haberdashery, 16¾ per cent.

In discussing the methods of growing the flax, the association indorsed a pamphlet upon that subject, published by Mr. William McGausland, of Belfast, and strongly urged its distribution among flax growers, two copies of which are inclosed with this report.*

Exports of Staves from Fiume.—Consul Hammond, of Budapest, writes under date of June 26, 1895:

In view of the fact that within the past year some small quantities of American staves have found their way into Hungary through the port of Fiume, I thought it might be of some

*One copy transmitted to Department of Agriculture; the other filed in Bureau of Statistics, Department of State.

interest to American exporters to know that during the past month (May) there were transported by sea via Fiume and Trieste to western foreign countries 4,350,000 pieces, against 4,420,000 pieces in May, 1894, of which 4,230,000 pieces found their way to French ports. From the 1st of January to the 31st of May, 1895, the following quantities were exported, to wit:

Exports.	1895.	1894.
	Pieces.	*Pieces.*
Total export	16,570,000	17,270,000
From Fiume	15,810,000	16,350,000
To France	15,280,000	15,670,000
To Italy	1,580,000	1,370,000

It will be seen, therefore, that the stave export so far this year remains almost as extensive as ever, the slight decrease being due, perhaps, to American competition and increased home consumption, as evidenced by American imports. Fiume has decidedly obtained the upper hand in this article as a port of shipment, which is of great advantage to the steam and sailing vessels trading to and from that port.

Treaties of Greece with Russia and Belgium.—A dispatch from Minister Alexander, at Athens, June 18, 1895, states that among the measures likely to be considered during the present session of the Greek Chamber of Deputies, is the ratification of the new treaties with Russia and Belgium. Mr. Alexander says:

I learn that the treaty with Russia allows the importation of Greek currants into that country free of duty, while the Greek Government agrees, in return, to buy petroleum exclusively from Russian companies, which it would probably be compelled to do at any rate. Petroleum is one of the Government monopolies in this country. Greece has for some time bought its supply entirely from American companies, having imported 2,042,810 gallons last year from the United States. American petroleum is still preferred, but I am informed that American companies will no longer sell it here, because an agreement has been made by the Russian companies and themselves that each shall furnish petroleum only to certain countries, and Greece is one of the countries allotted to the Russian companies. I do not know, however, that this information is correct.

Tobacco Duty in Venezuela.—Under date of June 20, 1895, Mr. Bartleman, secretary of legation at Caracas, writes:

I inclose herewith a copy and translation of a decree of the Minister of Finance, dated the 18th instant, reducing the duty on chewing tobacco, plug, and twisted, 50 per cent. Under the existing tariff, articles of the seventh class pay at the rate of 5 bolivars ($2.28½), and of the sixth class 2.50 bolivars ($1.14) per kilogram (2.2046 pounds), plus the additional tax (transit duty) of 12½ per cent. The decree reads:

"The President of the Republic, making use of the power conferred upon him by article 10 of the law of customs, has been pleased to declare that plug, or any other tobacco twisted for chewing, which may be imported through the custom-houses of the Republic, shall be classified, from this date, in the sixth class, instead of in the seventh, under which it was placed by the resolution of the 27th of November, 1894, which permits the importation of the said article."

Free Passage for Vessels at Ningpo.—In a dispatch to the Department, dated Peking, June 11, 1895, Minister Denby states that, in response to a communication from him asking that the orders existing at Ningpo which compelled vessels to anchor at Ching-Hai and prevented their going to the city wharves be rescinded, the Tsung-li Yamen (Chinese council of ministers) promptly took the action asked for. In their reply, they state that they at once telegraphed the governor of Che-Kiang to order an investigation and report, and that that officer replied by wire "that the torpedoes laid at Ching-Hai had not been removed, and that steamers had to anchor off the side of the entrance and were not allowed to proceed to Ningpo. These precautions were taken as a preventive measure against malicious and traitorous characters. The British and American consuls have represented that, as the tea season is coming on, they ask that the obstructions be removed, but if danger happens steamers can be ordered to again anchor off Ching-Hai. Instructions have been issued to the police authorities to keep strict guard, and if there is any cause for alarm steamers must anchor again off Ching-Hai. Steamers will, therefore, be permitted to come up to Ningpo for the present. The Yamen is requested to send instructions." The Yamen, therefore, informed Mr. Denby that telegraphic instructions were sent to Ningpo to take action accordingly.

Value of China's War Indemnity.—Minister Denby reports to the Department from Peking, May 14, 1895:

By the fourth article of the Shimonoseki treaty, the war indemnity to be paid to Japan by China is 200,000,000 Keeping taels. This is the imperial treasury tael. At this time, it is equivalent to 1.096 Shanghai taels. At the last quotations, 0.759 Shanghai tael was equal to one Mexican silver dollar. Two hundred million Keeping taels may be taken to be now equivalent to $288,800,000 (Mexican silver).

Palermo–Messina Railroad Open.—Consul Seymour, of Palermo, reports June 18, 1895:

The recently constructed railroad connecting Palermo and Messina was declared open on the 16th instant. This road, which is 120 miles long, follows, with the exception of a few miles, the northern coast of Sicily; it brings the two cities 65 miles, or three hours, nearer to each other.

Russian Kerosene Industry (correction).—Consul-General Karel, of St. Petersburg, writes to the Department calling attention to an error in printing his report on the "Russian Kerosene Industry," which was published in CONSULAR REPORTS, No. 177 (June, 1895), pp. 318–322. Mr. Karel states that on p. 322 "the printer has set up all that follows the sentence, 'That newspaper says,' as if all of it had been cited from the newspaper. What I cited

from the Messenger of Finance was the first six lines, commencing with the word 'During' and ending with the word 'better' in the sixth line. The balance of the report from 'But in order, etc.,' down to the end, is my own language."

Fall in Price of Petroleum.—Vice-Commercial Agent Murphy writes to the Department from Luxemburg, July 6, 1895:

Referring to my reports of April 23 and 26,* reporting a very considerable increase in the retail price of American petroleum in this market, I have now the honor to report that the price has again fallen to 5 cents per quart, and that, therefore, American petroleum is almost as cheap here to-day as it was before the upward movement began.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of July to other Departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
John Karel, St. Petersburg.....	Apr. 8, 1895	American vines in Russia.....	Department of Agriculture.
Do.....	May 11, 1895	Condition of Russian winter wheat.	Do.
Frederick G. Gade, Bergen.....	Apr. 25, 1895	The Norwegian fisheries.....	Fish Commission.
Edward T. Wetter, Tamatave..	May 8, 1895	Diseases of domestic animals...	Department of Agriculture.
John Fowler, Ningpo.....	May 17, 1895	American canned meats.....	Do.
E. Schneegans, Saigon.....	May 18, 1895	Rice.....	Do.
Do.....	June 1, 1895	.....do.....	Do.
John Patton, Amherstburg.....	July 2, 1895	Agriculture.....	Do.
L. M. Shaffer, Stratford.....	June 29, 1895	.....do.....	Do.
M. H. Twitchell, Kingston, Ont.	June 30, 1895	.....do.....	Do.
Edwin F. Bishop, Chatham.....	July 15, 1895	.....do.....	Do.
Allen B. Morse, Glasgow.....	July 8, 1895	.....do.....	Do.
Frank H. Mason, Frankfort.....	June 28, 1895	A notable step in metal working.	Navy Department.
J. C. Monaghan, Chemnitz.....	June 16, 1895	Armor vs. ball.....	Do.
David N. Burke, Malaga.....	Mar. 15, 1895	Agricultural taxation in Spain..	Department of Agriculture.
Irving B. Richman, St. Gall.....	June 26, 1895	Method of counting stitches, etc.	Treasury Department.
John Karel, St. Petersburg.....	July 8, 1895	Cholera in Russia.....	Marine Hospital Service.
Newton B. Ashby, Dublin	July 12, 1895	Agriculture in Ireland.....	Department of Agriculture.
Robert J. MacBride, Leith.....	July 12, 1895	British harvest outlook.....	Do.
James B. Taney, Belfast.....	June 11, 1895	Flax production in Ireland.....	Do.
E. W. S. Tingle, Brunswick.....	May 29, 1895	Horse meat for Germany.....	Do.
Geo. H. Murphy, Luxemburg...	June 29, 1895	American horses in Germany..	Do.

*See CONSULAR REPORTS No. 177 (June, 1895), p. 369.

FOREIGN REPORTS AND PUBLICATIONS.

Commerce of France, Five Months of 1895.*—The results of the foreign commerce of France during the month of April emphatically confirm the signs of revival noted by us last month. For imports, the variations affect the same categories as in April. The reduction in entries of alimentary commodities is greater. Greater, also by 10 per cent is the increase in the purchase of raw materials. The advance in the importation of manufactured articles is slightly less. In short, the amount of the importation of foreign products has attained 17,000,000 francs, or about 6 per cent.

Exports also are on the advance. The gross amounts of increase are something less, but they are better distributed among the different kinds of goods. During last month, the shipments of alimentary commodities were still sensibly low; they increased in May 5 per cent, and we have some reason to believe that the real increase is more in amount on account of certain errors committed in April or May in the tables of values relative to brandies.

There is also an appreciable increase in the exportation of original materials, of manufactured articles and of postal parcels, but the difference is less than last month. In short, our combined exports gained in May nearly 8 per cent. Here is the movement itemized:

Description.	1895.	1894.	Increase.	Decrease.
Imports.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Articles of food	80,323,000	87,063,000	.....	6,740,000
Materials necessary to industries	187,929,000	170,155,000	17,774,000	.....
Manufactured articles	50,204,000	44,222,000	5,982,000	.....
Total	318,456,000	301,440,000	17,016,000	.....
Exports.				
Articles of food	59,406,000	56,795,000	2,611,000	.....
Materials necessary to industries	70,150,000	66,955,000	3,195,000	.....
Manufactured articles	135,926,000	122,634,000	13,292,000	.....
Postal parcels	7,967,000	5,757,000	2,210,000	.....
Total	273,449,000	252,141,000	21,308,000	.....

The general situation of the first five months leaves a deficit of 13 per cent on account of imports, the greater part of which is for alimentary commodities, about 8 per cent. It is the only one of real significance. The falling off is considerable in regard to raw materials, less in demand than in 1894, and is reduced to 3½ per cent for manufactured articles.

* Translated from the Revue du Commerce Extérieur, of Paris, June 29, 1895.

The condition of the export trade indicates a very considerable revival—equivalent to 8 per cent. Only the alimentary commodities are behind hand—from 9 to 10 per cent—which is to be regretted. Of raw materials, the most valued amount to 16 per cent. Our exports of wrought products gain 10 per cent and those in the shape of postal parcels have increased one-third. To these direct authentic statements, an important observation must be added—the price of goods is rising. From this fact we may expect a slight bonus, which will grow in the course of the year. Even should the progressive movement of quantities imported or exported be arrested there would be no reason to fear disappointment. It is a sufficiently important point to attract attention. Here are the figures of the first five months of 1895 compared with those of the same period in 1894:

Description.	First five months—		Increase.	Decrease.
	1895.	1894.		
Imports.	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Articles of food	389,764,000	533,137,000	.....	143,373,000
Materials necessary to industries	916,288,000	1,003,760,000	.....	87,472,000
Manufactured articles	222,981,000	230,581,000	.....	7,600,000
Total	1,529,033,000	1,767,478,000	.....	238,445,000
Exports.				
Articles of food	238,184,000	263,537,000	.....	25,353,000
Materials necessary to industries	343,284,000	296,069,000	47,215,000	.....
Manufactured articles	730,675,000	664,795,000	65,880,000	.....
Postal parcels	48,425,000	36,047,000	12,378,000	.....
Total	1,360,568,000	1,260,448,000	100,120,000	.....

The movement in foreign commerce, according to productions, shows an advance in imports from most of the countries named. First, the Argentine Republic with nearly 11,000,000 francs for the month of May alone, thus reducing its deficit for the year to 8,000,000 francs. England comes out equal, thanks to a monthly increase of 8,000,000 francs; the imports from Turkey, notwithstanding an increase of 6,000,000 francs in May, still lose 4,000,000 francs; the United States, with a like increase, remains 27,000,000 francs below on May 31; Italy also gains nearly 3,000,000 francs, but needs 13,000,000 francs for this year to equal the preceding one. For Spain, the deviation for the month of May is insignificant; she still loses 12,000,000 francs. Brazil's excess has increased about 1,800,000 francs, thus carried to over 7,000,000 francs. The greatest deficit of the month is divided between the countries not named (14,000,000 francs), reducing the value of their importations into France to the net sum of 133,700,000 francs. In short, during the month of May, 1895, the productions from Belgium have alone declined in appreciable proportion. The imports from only two countries since the 1st of January have been greater than during the corresponding period in 1894. These countries are Brazil (+7,400,000 francs) and England (+700,000 francs).

To all the others, the French market has offered a more limited opening; Belgium, in particular, has been tried, for her importations into France have declined 40,000,000 francs.

Exports of French products have also increased during the month of May to most places of destination. In this respect, Germany (which has gained 1,500,000 francs on imports in May, and loses but 5,300,000 francs during the year); England, and, if you will, the Argentine Republic (151,000 francs), are the only exceptions; the latter for 3,000,000 francs, the former for 4,000,000 francs. The United States, Switzerland, and Spain give the best reception to our products. The respective increased values of our exportations to those countries vary from 3,000,000 francs (Belgium) to 8,700,000 francs (the United States). The countries not named have contributed by more than 15,000,000 francs to the progress of our exports during the month.

For the first five months of the year 1895, only two countries remain in arrears—Germany (—18,000,000 francs), her importations of wines having increased heavily in 1894, and the Argentine Republic (—6,400,000 francs). * * * But, in the United States, by the modification of the customs tariff, we have gained 50,000,000 francs; in Italy, the fall in the exchange permitted us to dispose of 17,000,000 francs more than in 1894. We gain also 10,000,000 francs in England, almost as much in Belgium, and 7,000,000 francs in Spain. * * * The different countries had also accepted an excess of 8,000,000 francs at the end of May.

The revival of business in the United States, exchanges less disadvantageous for importations, and the general improvement are the essential causes of the growth of our exports.

Importations into France.

Countries of origin.	Month of May—		First five months—	
	1895.	1894.	1895.	1894.
	Francs.	*Francs.*	*Francs.*	*Francs.*
England	46,378,000	38,341,000	207,600,000	206,937,000
Germany	28,467,000	26,994,000	125,388,000	130,727,000
Belgium	27,092,000	32,422,000	122,443,000	162,759,000
Switzerland	4,851,000	5,269,000	24,878,000	26,701,000
Italy	10,208,000	7,377,000	44,950,000	58,721,000
Spain	14,968,000	15,272,000	69,435,000	81,848,000
Turkey	9,099,000	2,734,000	38,276,000	42,256,000
United States	24,304,000	18,201,000	160,939,000	187,876,000
Brazil	6,051,000	4,249,000	30,895,000	23,470,000
Argentine Republic	25,389,000	14,729,000	101,200,000	109,579,000
Other countries	121,649,000	135,852,000	602,933,000	736,604,000
Total	318,456,000	301,440,000	1,528,943,000	1,767,478,000

Exportations from France

Destinations.	Month of May—		First five months—	
	1895.	1894.	1895.	1894.
	Francs.	*Francs.*	*Francs.*	*Francs.*
England	77,949,000	81,062,000	387,646,000	377,442,000
Germany	28,053,000	32,177,000	131,157,000	149,500,000
Belgium	46,229,000	42,701,000	216,409,000	206,698,000
Switzerland	4,646,000	9,920,000	56,034,000	52,589,000
Italy	7,444,000	6,480,000	48,851,000	31,360,000
Spain	12,148,000	7,610,000	47,968,000	40,530,000
Turkey	6,432,000	5,608,000	23,236,000	22,150,000
United States	17,610,000	9,922,000	127,813,000	67,437,000
Brazil	5,098,000	4,258,000	33,040,000	26,865,000
Argentine Republic	4,346,000	4,497,000	19,950,000	26,381,000
Other countries	63,494,000	47,906,000	267,464,000	259,496,000
Total	273,449,000	252,141,000	1,360,568,000	1,260,448,000

British Trade Returns.—The accounts of trade and navigation of the United Kingdom for the month of June, and for the six months ended June 30, 1895, make the following showing of British imports and exports:

IMPORTS.

	1894.		1895.	
Month ended June 30	£34,229,679	$166,561,618	£33,884,584	$164,882,386
Decrease			345,095	1,679,232
Six months ended June 30	211,004,995	1,026,750,305	203,663,288	991,025,559
Decrease			7,341,707	35,724,746

The following items show a decrease during the half year: Animals, living (for food), articles of food and drink, duty free; metals; chemicals, dyestuffs, and tanning substances; raw materials for textile manufactures, raw materials for sundry industries, and miscellaneous articles. There was an increase in imports of articles of food and drink (dutiable), tobacco, oils, and manufactured articles. It is worthy of note that the importation of materials which enter into manufactures decreased to the extent of £5,171,305 ($25,163,170), while the importation of manufactured goods shows an increase of £1,918,217 ($9,334,039).

EXPORTS.

British and Irish produce and manufactures.

	1894.		1895.	
Month ended June 30	£17,909,155	$87,145,948	£17,800,100	$86,615,287
Decrease			109,055	530,661
Six months ended June 30	106,883,475	520,094,989	106,117,516	516,367,833
Decrease			765,959	3,727,156

The items showing an increase are animals (living), yarns and textile fabrics, machinery and millwork, "all other articles," either manufactured or partly manufactured, and parcel post. The greatest amount of increase was £1,400,561 ($6,815,130) for "all other articles," manufactured or partly manufactured. The items showing decrease in exportation are articles of food and drink, raw materials, metals and manufactures thereof, except machinery; apparel and articles of personal use, and chemicals and medicinal preparations. The decrease in exportation of raw materials was £1,428,716 ($6,952,132); metals and manufactures thereof, £758,630 ($3,691,544); apparel and articles of personal use, £133,067 ($647,504).

Foreign and colonial merchandise.

	1894.		1895.	
Month ended June 30	£5,198,180	$25,294,344	£5,265,773	$25,623,251
Increase			67,593	328,907
Six months ended June 30	29,653,899	144,295,872	30,231,354	147,105,768
Increase			577,455	2,809,896

We thus have for the six months ended June 30, 1894 and 1895:

Description.	1894.		1895.	
Imports	£211,004,995	$1,026,750,305	£203,663,288	$991,025,559
Exports	136,537,374	664,390,862	136,348,870	663,473,601
Excess of imports	74,467,621	362,359,443	67,314,418	327,551,958

The French Commercial Mission to China.*—The commercial mission which the Lyons Chamber of Commerce has taken the initiative in organizing to send out to China, and for which it has subscribed important sums, is now constituted. The mission is composed of twenty members—manufacturers, engineers, doctors, etc.—and it will be directed by a high official of the Department of Foreign Affairs, who has for a long time occupied an important post in China. The mission will probably embark on September 1 at Marseilles on one of the boats of the Messageries Maritimes, its destination being the Chinese provinces opened to European commerce by the treaty of Shimonoseki.

The Ministry of Foreign Affairs and the Ministry of Commerce have given special advantages to the mission, which will have an official status. The working members of it are to be young men who have passed with credit through the higher commercial schools, and have gained some practical experience in what the Temps calls the politics of commerce. The mission will go direct to Shanghai. Thence it will ascend the Yangtse-Kiang as far as Chung-King, which will be made the headquarters. From Chung-King as a center expeditions will be sent out over the provinces of Szechuan,

*From the London and China Telegraph, July 10, 1895.

Hunan, and Quei-Chow, and a thorough exploration will be made of the province of Yunan. In the last-mentioned province a junction will be effected at Yunan-Fou, with a similar expedition organized in Tong-King, and the two missions will devote their combined efforts to making a complete survey of this region which adjoins Tong-King, and to ascertaining the advantages which may be derived by Tong-King from the development of Yunan.

The Lyons Chamber of Commerce has provided funds to support the mission for two years. It has sent a circular to all the other leading chambers of commerce, inviting their cooperation. In this document they state:

> It is beyond question that the recent events of the war between China and Japan must lead to an evolution in the policy of the Celestial Empire, more especially as regards the facilities and commercial advantages to be conceded to Europeans. At a time when the great western powers are about to obtain a greater freedom to penetrate into the interior of the country, and will possibly be enabled to install commercial and industrial establishments, it has struck us that it would be materially conducive to the commerce and manufacturers of our district that a body of young men, possessed of adequate technical training, should be instructed to investigate on the spot the resources and commercial riches likely to be turned to profitable account.

Administration of French Colonies.—The Journal des Débats, of Paris, of July 8 last, contains a criticism of the French Government's administration of its colonies, which now have an approximate area of 750,000,000 hectares, or almost 3,000,000 English square miles. Under the supervision of Undersecretaries of the State and Ministers for the Colonies, who are constantly changing, their progress has been greatly retarded, and they have been but an expense to France in consequence of the varying policy in their administration adopted by each succeeding minister. In order to develop this vast territory, and, in time, to make it a source of revenue to the Government, the Journal des Débats advocates strongly the granting of charters and privileges to large private corporations, as was formerly the practice in France under monarchial rule, and as is still the custom on the part of the British Government. A step in that direction was accomplished when the French Government, in 1890, created an administrative commission to prepare a draft of a law authorizing the formation of large privileged companies in its colonial possessions, but that and subsequent drafts submitted were rejected by the Senate.

Germany's Navy and Her Colonies.—The Deutsche Kolonialzeitung, of Berlin, of June 29 last, has an interesting article entitled "The German Navy and Colonial Problems." In the opinion of the author, the continuously increasing excess of German imports over German exports calls for the expansion and development of the German colonial possessions, and one

of the chief factors in executing this policy is the assurance of protection in time of war to German subjects in distant colonies and to the German merchant marine. The necessity, therefore, of maintaining the German navy on a footing of excellence equal to that of the navies of the other great powers is one of the pressing problems of Germany, and one which the Reichstag has partially recognized by recent appropriations for the construction of four new protected cruisers.

INDEX.

VOL. XLVIII—NOS. 176, 177, 178, AND 179.

Africa, East, German agriculture, 539.
Agricultural exhibition, Uruguay, 375.
Agricultural implements, Bulgaria, 645.
Agricultural taxation in Spain, 551.
Agriculture:
  Bulgaria, 638.
  German, in East Africa, 539.
  Scotland, 149.
Alcohol monopoly, Switzerland, 268.
Algeria:
  Declared exports for United States, 593.
  Postal service with France, 537.
American art products in Germany, 123.
American boots and shoes in England, 146.
American-Chinese trade, 334.
American clocks for Singapore, 186.
American cotton:
  Fires in, 56.
  In China, 326.
  New covering for, 52.
American hardware and machinery in Switzerland, 343.
American horses in Germany, 660.
American immigration, a German view, 265.
American interests in Rouen, 144.
American vs. Russian petroleum in Denmark, 505.
American vines in Russia, 500.
Ammunition and firearms, Bulgaria, 645.
Antidiphtheritic serum, government control, 181.
Antwerp ivory trade, 174.
Apples, evaporated, in Germany, 311.
Arbitration, labor, in France, 527.
Architectural competition, Cairo, 188.
Argentine imports, opposition to, in Germany, 175.
Argentine Republic:
  Grasses and forage plants, 228.
  Provincial debts, 103.
Artificial silk in Switzerland, 266.
Artisans' dwellings, Liverpool, 415.
Aspen wood for matches, 515.
Athens permanent industrial exhibition, 376.
Australasia:
  Colonies, federation, 104.
  Market for dairy products and fruits, 211.
  Production of gold and silver, 185.
Austria:
  Military shoes, 507.
  Paper industry, 274.
  Strikes, 303.
  Tin-plate manufacture, 59.
  Trieste and Manchester, new line of steamers between, 539.
Austria-Hungary:
  Coal production (1883 to 1893), 303.
  Cotton baling, 2.
  Declared exports for United States, 593.

Baggage, Venezuelan regulations, 372.
Bagging, improved, for cotton, 56.
Bahamas, new tariff, 490.
Bahia:
  Improvements, 662.
  Monazite, 551.
Baling, cotton:
  Austria-Hungary, 2.
  Colombia, 47.
  Egypt, 28.
  Extracts from previous reports, 54.
  Foreign countries, 1.
  France, 7.
  Germany, 10.
  Great Britain, 19.
  India, 29.
  Italy, 24.
  Spain, 26.
Baling systems, new, for cotton, 53.
Barbados, new tariff, 354.
Barcelona:
  Arrival of United States vessels, 306.
  Woven goods, 571.
Beer, Bulgaria, 641.

Belgium:
Brussels tenement houses, 386.
Bureau of labor, 364.
Butter and artificial butter, 488.
Coal production (1883 to 1893), 301.
Declared exports for United States, 595.
Ice saws for opening navigation, 367.
Ivory trade of Antwerp, 174.
Margarin, 488.
Proposed duty on cigars and cigarettes, 479.
Proposed duty on flour, 352.
Proposed tariff law, 147.
Tariff, present and proposed, 479.
Tin-plate manufacture, 65.
Treaty with Greece, 663.
Belgium and Paraguay, trade between, 512.
Bergen, monazite, 549.
Berlin:
American exhibits, 359.
Exposition (1896), 358.
Tenement houses, 382.
Billiard tables, slate beds for, in Venezuela, 187.
Bitters, Venezuelan duty on, 373.
Boats, apparatus to prevent sinking, 313.
Bombay, market for dairy products and fruits, 196.
Boots and shoes, American, in England, 146.
Bourse, labor, of Nantes, 578.
Bran, wheat, and flour, duty on, in Spain, 183.
Brazil:
Business outlook, 368.
Cotton baling, 45.
Improvements in Bahia, 662.
Monazite in Bahia, 551.
Monazite in Santos, 551.
Port charges and currency, 649.
British India, declared exports for United States, 129, 597.
British industrial schools, State aid, 372.
British trade returns (first six months of 1895), 669.
British West Indies, declared exports for United States, 598.
Brussels tenement houses, 386.
Budget, French, 176.
Bulgaria:
Agricultural implements, 645.
Agriculture, 638.
Beer, 641.
Coal, 644.
Bulgaria—Continued.
European competition in import trade, 646.
Firearms and ammunition, 645.
Foreign trade, 643.
German trade, 645.
Government aid to manufactures, 642.
Imports and exports (1895), 644.
Industrial development, trade, etc., 638.
Industries, 642.
Law to encourage native industries, 647.
Leather, 639.
Manufactures, 639.
Milling, 639.
Nails, 645.
Oil of roses, 642.
Paper and paper ware, 645.
Sewing machines, 645.
Spirits, 641.
Textiles, 640.
Tobacco, 647.
Burial of the dead in Switzerland, 125.
Butter and artificial butter in Belgium, 488.

Cable between Mozambique and Majunga, 370.
Cairo, architectural competition, 188.
Calcutta, market for dairy products and fruits, 196.
Canada:
Dairy farming, 373.
Declared exports for United States, 598.
Imports and exports, 378.
Physicians along the border, 182.
Cape Verde Islands, declared exports for United States, 608.
Cardiff coal trade, 271.
Castor-oil production in France, 376.
Cattle and meat products, Russia, 362.
Cattle plague in Russia, 186.
Cement, Bulgaria, 644.
Central America, steamship service to United States, 370.
Ceylon, declared exports for United States, 608.
Chicory as a beverage, 139.
China:
American cotton, 326.
Exchange, 335.
French commercial mission, 670.
Haikwan tael, 335.
Hongkong, market for dairy products and fruits, 193.

China—Continued.
Missionaries and trade, 342.
Money and commerce, 325.
Native rebels executed, 530.
Opium, 336.
Ports, 332.
Shanghai, 326.
Tea season of Hankow, 530.
Tea trade, 340.
Tien-Tsin, market for dairy products and fruits, 195.
Trade review, 335.
Trade with foreign countries, 337.
Trade with United States, 336.
War indemnity, value of, 664.
China and Japan:
Commercial treaty, 339.
Trade, 324.
Wages, 328.
China, southern:
Silk culture, 591.
Silkworms, 591.
Chinese-American trade, 334.
Christiania, monazite, 550.
Chile, nitrate shipments to United States, 371.
Cholera in Russia, 371.
Cigars and cigarettes, proposed duty on, Belgium, 479.
Civil government of Shanghai, 324.
Clocks, American, for Singapore, 186.
Coal, Bulgaria, 644.
Coal production (1883 to 1893):
Austria, 303.
Belgium, 303.
Europe, 301.
France, 301.
Germany, 301.
Hungary, 303.
United Kingdom, 301.
Coal trade, Cardiff, 271.
Cod fisheries, Norway, 588.
Coffee, export duty on, Colombia, 527.
Colliers, sliding scale for South Wales, 572.
Cologne, monazite, 546.
Colombia:
Additional tariff taxes, 188.
Cotton baling, 47.
Export duty on coffee, 527.
Colon, shipments to, from Halifax, 371.
Colonies, French and German, 671.
Colony, negro, in Mexico, 184.
Commerce of France (five months of 1895), 666.
Commercial mission, French, to China, 670.
Consular Reports:
Reprinted abroad, 374, 533.
Transmitted to other Departments, 534, 665.
Copper rolls:
France and Russia, 472.
Lyons, 473.
Roubaix, 473.
Russia, 475.
St. Etienne, 474.
Cotton, American:
China, 326.
Fires in, 56.
New covering for, 52.
Cotton baling:
Alexandria, 28.
Austria-Hungary, 2.
Bahia, 45.
Barcelona, 26.
Barranquilla, 47.
Bombay, 29.
Brazil, 45.
Bremen, 10.
Calcutta, 44.
Ceara, 46.
Ceylon, 44.
Chemnitz, 12.
Colombia, 47.
Egypt, 28.
Extracts from previous reports, 54.
Foreign countries, 1.
France, 7.
Genoa, 24.
Germany, 10.
Great Britain, 19.
Hamburg, 12.
Havre, 7.
India, 29.
Italy, 24.
Karachi, 44.
Liverpool, 18.
London, 23.
Marseilles, 8.
Panama, 52.
Pernambuco, 44.
Rio de Janeiro, 46.
Rio Grande do Sul, 47.
Santos, 47.
Spain, 26.
Trieste, 2.
Cotton crop, East Indian (1894–95), 379.
Cotton, improved bagging, 56.

Cotton industry, Swiss, 582.
Cotton-mill strike, Malaga, 559.
Cotton mills, Japan, 326.
Cotton, new baling system, 53.
Cotton, Peruvian, 581.
Cotton prospects, Egyptian (1895), 476.
Crops:
  Cotton, East Indian (1894–95), 379.
  Sugar, Cuba, 532.
  Wheat, France, 532.
Cuba:
  American iron company, 531.
  Declared exports for United States, 608.
  Industrial burdens, 207.
  Sugar crop, 532.
Cuban sugar statistics, 187.
Currency and port charges, Brazil, 649.

Dairy farming in Canada, 373.
Dairy products and fruits, market for:
  Bombay, 196.
  Calcutta, 196.
  Hongkong, 193.
  Kanagawa, 198.
  Newcastle, N. S. W., 211.
  New Zealand, 225.
  Oriental market, 193.
  Osaka and Hiogo, 199.
  Padang (Sumatra), 197.
  Persia, 200.
  Philippine Islands, 205.
  Queensland, 219.
  Siam, 206.
  Straits Settlements, 209.
  Sydney, 220.
  Syria, 203.
  Tien-Tsin, 195.
  Victoria, 221.
Dams and reservoirs, Germany and France, 525.
Danish West Indies, declared exports for United States, 609.
Debts, provincial, of Argentine Republic, 103.
Denmark:
  American vs. Russian petroleum, 505.
  Declared exports to United States, 610.
  Sewing machines, 113.
  Snuff, 514.
Diaz, President (of Mexico), message of, 133.
Disease:
  Potato, remedy, 370.
  Swine, in Germany, 531.
Dresden, gas-motor car, 115.
Dutch East Indies (Padang, Sumatra), market for dairy products and fruits, 197.
Duty:
  Colombian export, on coffee, 527.
  Export, on Java sugars, 365.
  On bitters, Venezuela, 373.
  Proposed Belgian, on flour, 352.
  Proposed on cigars and cigarettes in Belgium, 479.
  Spanish, on wheat flour and bran, 183.
  Tobacco, in Venezuela, 663.

East Africa, German agriculture, 539.
East Indies, cotton crop (1894–95), 379.
Edible snails, 178.
Egypt:
  Cotton baling, 28.
  Cotton prospects (1895), 476.
  Finances (1895), 656.
  Railway enterprise, 310.
Electric lighting in Montevideo, 162.
Emigration:
  Würtemberg, 368.
  Swiss, 528.
England, American boots and shoes, 146.
Errata, 188.
Europe:
  Food preparation, 599.
  Production of coal (1883 to 1893), 301.
  Uses of monazite, 170.
European competition in the import trade of Bulgaria, 646.
Evaporated apples in Germany, 311.
Exchange in China, 335.
Exchange, Luxemburg labor, 577.
Exchange, old letters of, 530.
Exhibition:
  Industrial, permanent, Athens, 376.
  Photographic, Moscow (1896), 375.
  Uruguayan agricultural, 375.
Export duty:
  Coffee, Colombian, 527.
  Java sugars, 365.
Export of tin plate, British, 305.
Export tax, abatement in Puerto Rico, 373.
Exports:
  Grain, and tea production, Russia, 163.
  Oranges and lemons from Palermo, 533.
  Oranges from Messina, 173.
Exports and imports of Canada, 378.
Exports, Bulgaria (1895), 644.
Exports declared for United States:
  Algeria, 593.

Exports declared for United States—Continued.
Austria-Hungary, 593.
Belgium, 595.
British India, 129, 597.
British West Indies, 598.
Canada, 598.
Cape Verde Islands, 608.
Ceylon, 608.
Cuba, 608.
Danish West Indies, 609.
Denmark, 610.
France, 610.
Germany, 129, 285, 615.
Gibraltar, 622.
Hawaiian Islands, 622.
Honduras, 623.
Italy, 624.
Malta, 628.
Mauritius, 628.
Mexico, 628.
Netherlands, 631.
Russia, 633.
Spain, 634.
Sweden and Norway, 635.
Switzerland, 635.
Turkish Empire, 637.
United Kingdom, 293.
Exposition:
Art, at Venice, 172.
Swiss (1896), 374.
Expositions:
Foreign, 358.
International, 189.
Expositions and museums, 535.

Farming, dairy, in Canada, 373.
Federation of the Australian colonies, 104.
Finances, Egypt's (1895), 656.
Firearms and ammunition, Bulgaria, 645.
Fisheries:
Cod, Norway, 588.
Norwegian, 588.
Fishery, herring, Norway, 589.
Fiume, export of staves from, 662.
Flax production of Ireland, 662.
Flour, proposed Belgian duty, 352.
Flour, wheat, and bran, duty on, in Spain, 183.
Food of a Parisian, 184.
Food preparation in Europe, 579.
Food prices and labor in Malaga, 554.
Forage plants and grasses. (*See* grasses.)
France:
American interests in Rouen, 144.
Budget, 176.
Castor-oil production, 376.
Coal production (1883 to 1893), 301.
Commerce of (five months of 1895), 666.
Commercial mission to China, 670.
Copper rolls in Lyons, 473.
Copper rolls in Paris, 472.
Copper rolls in Roubaix, 473.
Copper rolls in St. Etienne, 474.
Cotton baling, 7.
Declared exports for United States, 610.
Grasses and forage plants, 229.
Imports into Switzerland by way of, 529.
Labor arbitration, 527.
Movement of population, 283.
Nantes labor bourse, 578.
Paris tenement houses, 454.
Receipts and expenditures, 176.
Tin-plate manufacture, 69.
Wheat crop, 532.
France and Algeria, postal service between, 537.
France and Germany, dams and reservoirs, 525.
Frankfort, monazite, 541.
Fruit culture in Malaga, 564.
Fruits and dairy products, market for:
Bombay, 196.
Calcutta, 196.
Hongkong, 193.
Kanagawa, 198.
Newcastle, N. S. W., 211.
New Zealand, 225.
Oriental market, 193.
Osaka and Hiogo, 199.
Padang (Sumatra), 197.
Persia, 200.
Philippine Islands, 205.
Queensland, 219.
Siam, 206.
Straits Settlements, 209.
Sydney, 220.
Syria, 203.
Tien-Tsin, 195.
Victoria, 221.

Gas-motor car in Dresden, 115.
German agriculture in East Africa, 539.
German view of American immigration, 265.

Germany:
American art products, 123.
American horses, 660.
Apparatus to prevent sinking of boats, 313.
Berlin, American exhibits, 359.
Berlin exposition (1896), 358.
Berlin tenement houses, 382.
Cereal imports, 529.
Coal production (1883 to 1893), 301.
Cotton baling, 10.
Cracked oats, 187.
Declared exports for United States, 129, 285, 615.
Emigation from Würtemberg, 368.
Evaporated apples, 311.
Foreigners in technical schools, 373.
Grasses and forage plants, 231.
Horse meat, 121, 660.
Importation of grain, 513.
Imports of wheat, 182.
Iron industry and the Russian market, 540.
Lübeck, exhibition, 362.
Luxemburg labor exchange, 577.
Monazite in Berlin, 544.
Monazite in Cologne, 546.
Monazite in Frankfort, 541.
Monazite in Hamburg, 547.
Navy and colonies, 671.
Opposition to Argentine imports, 175.
Prices of petroleum in Luxemburg, 369.
Sample room for Thuringian products, 519.
Saxony, manufacture of gut strings, 275.
Silver question in Würtemberg, 185.
Swine disease, 531.
Tin-plate manufacture, 78.
Trade with Bulgaria, 645.
Germany and France, dams and reservoirs, 525.
Glasgow tenement houses, 398.
Gold and silver production in Australasia 185.
Gold, platinum, and silver in Russia, 164.
Gothenberg, monazite, 549.
Grain:
Condition of Russian winter, 502.
Exports and tea production, Russia, 163.
German importation, 513.
Grading in Russia, 504.
Supply of Russia, 322.
Grapes and raisins in Malaga, 564.
Grasses and forage plants:
Argentine Republic, 228.
Foreign countries, 227.
France, 229.
Germany, 231.
Great Britain, 237.
Norway, 244.
Paraguay, 229.
Straits Settlements, 249.
Switzerland, 243.
Tasmania, 249.
Turkey, 249.
Great Britain:
British industrial schools, State aid, 372.
Cardiff coal trade, 271.
Cotton baling, 19.
Export of tin plate, 305.
Faster mails from, 183.
Glasgow tenement houses, 398.
Grasses and forage plants, 237.
Liverpool artisans' dwellings and tenements, 415.
London tenement houses, 421.
Sliding scale for South Wales colliers, 572.
Tarred-felt roofing paper, 250.
Tin-plate manufacture, 89.
Great Britain and her colonies, commercial league, 189.
Greece:
Athens, permanent industrial exhibition, 376.
Treaties with Belgium and Russia, 663.
Gibraltar, declared exports for United States, 622.
Gut strings:
Italian, 281.
Manufacture in Saxony, 275.

Haikwan tael, 335.
Halifax, shipments to Colon, 371.
Hamburg, monazite, 547.
Hankow, tea season, 530.
Hardware, American, and machinery in Switzerland, 343.
Hat trade, Spanish, 569.
Hawaiian imports of liquors, 168.
Hawaiian Islands, declared exports for United States, 622.
Hawaii's sugar trade, diversion, 169.
Herring fishery, Norway, 589.
Heureaux, President (of Santo Domingo), message of, 138.

Honduras, declared exports for United States, 623.
Hongkong, market for dairy products and fruits, 193.
Horse meat for Germany, 121, 660.
Horses, American, in Germany, 660.
Hosiery molds, paper, 533.
Houses, tenement. (*See* tenements.)
Hungary, coal production (1883 to 1893), 303.

Ice saws for opening navigation, 307.
Immigration, American, a German view of, 265.
Import trade, Bulgaria, European competition, 646.
Imports:
  Argentine, opposition to, in Germany, 175.
  Bulgaria (1895), 644.
  Cereal, into Germany, 529.
  Grain, into Germany, 513.
  Into Switzerland by way of France, 529.
  Liquors, Hawaii, 168.
  Prohibited by Russia, 376.
  Wheat into Germany, 182.
Imports and exports of Canada, 378.
Income tax of Prussia, 122.
India:
  Bombay, market for dairy products and fruits, 196.
  Calcutta, market for dairy products and fruits, 196.
  Cotton baling, 29.
  Cotton baling, Calcutta, 44.
Industrial exhibition, permanent, Athens, 376.
Industrial schools, British, State aid, 372.
International expositions, 189.
Ireland, flax production of, 662.
Iron company, a United States, in Cuba, 531.
Iron industry, German, and the Russian market, 540.
Italy:
  Art exposition at Venice, 172.
  Cotton baling, 24.
  Declared exports for United States, 624.
  Exports of oranges and lemons from Palermo, 533.
  Exports of oranges from Messina, 173.
  Gut strings, 281.
  Night refuge for workingmen, 523.
  Palermo, exports of oranges and lemons, 533.
Ivory trade of Antwerp, 174.

Jamaica:
  Industrial condition and tariff, 151.
  Kola nut, 477.
  Quarantine laws, 529.
Japan:
  Cotton mills, 326.
  Kanagawa, market for dairy products and fruits, 198.
  Osaka and Hiogo, market for dairy products and fruits, 199.
  Ports, 332.
  Wages, 521.
Japan and China:
  Commercial treaty, 339.
  Trade, 324.
  Wages, 328.
Java sugars, export duty, 365.

Kanagawa, market for dairy products and fruits, 198.
Kerosene industry, Russian, 318.
Kola nut in Jamaica, 477.
Kongo Free State, prices of goods for, 585.

Labor:
  Arbitration in France, 527.
  Belgian bureau, 299, 364.
  Exchange, Luxemburg, 577.
Labor and food prices in Malaga, 554.
Labor bourse of Nantes, 578.
Law, tariff, proposed, for Belgium, 147.
Laws, quarantine, of Jamaica, 529.
League, commercial, of Great Britain and her colonies, 189.
Leather, Bulgaria, 639.
Lemons and oranges, exports from Palermo, 533.
Lemons, Malaga, 568.
Letters of exchange, old, 530.
Life saving apparatus for boats, 313.
Lighting, electric, in Montevideo, 162.
Liquors, Hawaiian imports, 168.
Liverpool:
  Artisans' dwellings, 415.
  Tenement houses, 408.
London tenement houses, 421.
Lübeck, exhibition, 362.
Luxemburg:
  Labor exchange, 577.
  Prices of petroleum, 369.
Lyons, copper rolls, 473.

Machinery and hardware, American, in Switzerland, 343.
Machines, sewing, in Denmark, 113.
Madagascar:
Consumption tax, 661.
Tariff and other taxes, 165.
Madeira, shipping concessions, 371.
Mails, faster, from Great Britain, 183.
Majunga and Mozambique, cable between, 370.
Malaga:
Cotton-mill strike, 559.
Fruit culture, 564.
Grapes and raisins, 564.
Labor and food prices, 554.
Lemons, 568.
Oranges, 567.
Population, 554.
Wages, 557.
Malta, declared exports for United States, 628.
Manchester and Trieste, new line of steamers between, 539.
Margarin, Belgium, 488.
Market for dairy products and fruits:
Bombay, 196.
Calcutta, 196.
Hongkong, 193.
Kanagawa, 198.
Newcastle, N. S. W., 211.
New Zealand, 225.
Oriental, 193.
Osaka and Hiogo, 199.
Padang (Sumatra), 197.
Persia, 200.
Philippine Islands, 305.
Queensland, 219.
Siam, 206.
Straits Settlements, 209.
Sydney, 220.
Syria, 203.
Tien-Tsin, 195.
Victoria, 221.
Matches:
Aspen wood for, 515.
Switzerland, federal monopoly, 186.
Mauritius, declared exports for United States, 628.
Meat, horse, for Germany, 121.
Meat products and cattle, Russia, 362.
Messina, exports of oranges, 173.
Mexico:
Declared exports to United States, 628.
Message of President Diaz, 133.
Negro colony, 184.
Military shoes, Austrian, 507.
Mill, cotton, strike in Malaga, 559.
Mills:
Bulgaria, 639.
Cotton, Japan, 326.
Missionaries and Chinese trade, 342.
Molds, hosiery, paper, 533.
Monazite:
Bahia, 551.
Bergen, 549.
Berlin, 544.
Christiania, 550.
Cologne, 546.
Foreign countries, 541.
Frankfort, 541.
Gothenberg, 549.
Hamburg, 547.
Odessa, 550.
Santos, 551.
Stockholm, 549.
Uses of, in Europe, 170.
Monopoly:
Federal, of matches in Switzerland, 186.
Swiss alcohol, 268.
Montevideo, electric lighting, 162.
Moscow, photographic exhibition (1896), 375.
Mozambique and Majunga, cable between, 370.
Museum, Philadelphia commercial, 365.
Museums and expositions, 535.

Nails, Bulgaria, 645.
Nantes, labor bourse, 578.
Navy and colonies of Germany, 671.
Negro colony in Mexico, 184.
Netherlands and Portugal, treaty between, 510.
Netherlands, declared exports for United States, 631.
Newcastle, N. S. W., market for dairy products and fruits, 211.
New South Wales:
Market for dairy products and fruits in Newcastle, 211.
Market for dairy products and fruits in Sydney, 220.
New York:
New tenement-house laws, 467.
Tenement houses, 460.
New Zealand:
Market for dairy products and fruits, 225.
Removal of weeds, 369.
Nicaragua, Halifax to Colon, shipments, 371.

Ningpo, free passage for vessels at, 664.
Nitrate shipments to United States, 371.
Norway:
Cod fisheries, 588.
Fisheries, 588.
Grasses and forage plants, 244.
Herring fishery, 589.
Monazite in Bergen, 549.
Monazite in Christiania, 550.

Oats, cracked, in Germany, 187.
Odessa, monazite, 550.
Oil:
Castor, production in France, 376.
Spanish olive, 570.
Oil of roses, Bulgaria, 642.
Olive oil, Spain, 570.
Opium in China, 336.
Oranges and lemons, exports from Palermo, 533.
Oranges, exports of, from Messina, 173.
Oranges, Malaga, 567.
Osaka and Hiogo, market for dairy products and fruits, 199.

Padang (Sumatra), market for dairy products and fruits, 197.
Palermo, exports of oranges and lemons, 533.
Palermo-Messina railroad open, 664.
Paper and paper manufactures in Switzerland, 308.
Paper and paper ware, Bulgaria, 645.
Paper for hosiery molds, 533.
Paper industry, Austria, 274.
Paper, roofing, tarred-felt, in Great Britain, 250.
Paraguay and Belgium, treaty between, 512.
Paraguay, grasses and forage plants, 229.
Paris:
Copper rolls, 472.
Tenement houses, 454.
Parisian, food of a, 184.
Persia, market for dairy products and fruits, 200.
Peru:
Cotton, 581.
Refined petroleum, 532.
Petroleum:
American vs. Russian in Denmark, 505.
Fall in price at Luxemburg, 665.
Prices in Luxemburg, 369.
Refined, in Peru, 532.
Trade of the far East, 191.
Philadelphia commercial museum, 365.
Philippine Islands, market for dairy products and fruits, 205.
Photographic exhibition, Moscow (1896), 375.
Physicians along the Canadian border, 182.
Plague, cattle, in Russia, 186.
Platinum, gold, and silver in Russia, 164.
Population, movement of, in France, 283.
Population of Malaga, 554.
Port charges and currency, Brazil, 649.
Ports of China and Japan, 332.
Portugal and Netherlands, treaty between, 510.
Postal service between France and Algeria, 537.
Potato disease, remedy, 370.
Prices:
Food, and labor in Malaga, 554.
Goods for the Kongo, 585.
Petroleum in Luxemburg, 369.
Prussia, income tax, 122.
Puerto Rico, abatement of export tax, 373.

Quarantine laws of Jamaica, 529.
Queensland, market for dairy products and fruits, 219.

Railroad:
Development in Venezuela, 155.
Palermo-Messina, open, 664.
Tariff, new, in Russia, 315.
Railway enterprise in Egypt, 310.
Railway, Transandine, guaranty, 181.
Raisins and grapes in Malaga, 564.
Rebels, Chinese native, executed, 530.
Reservoirs and dams, Germany and France, 525.
Roofing paper, tarred-felt, in Great Britain, 250.
Roses, oil of, Bulgaria, 642.
Roubaix, copper rolls, 473.
Rouen, American interests, 144.
Russia:
American vines, 500.
Cattle and meat products, 362.
Cattle plague, 186.
Cholera, 371.
Condition of winter grain, 502.
Copper rolls, 475.
Declared exports for United States, 633.
Grading grain, 504.
Grain supply, 322.
Imports prohibited, 376.

Russia—Continued.
Kerosene industry, 318.
Market for the German iron industry, 540.
Monazite in, 550.
Moscow photographic exhibition (1896), 375.
New railroad tariff, 315.
Recent development, 499.
Tariff changes, 531.
Tea production and grain exports, 163.
Tin-plate manufacture, 102.
Trade with United States, 495.
Treaty with Greece, 663.
Russian kerosene (correction), 664.
Russian vs. American petroleum in Denmark, 505.

St. Etienne, copper rolls, 474.
Sample room for Thuringian products, 519.
Santo Domingo, message of President Heureaux, 138.
Santos, monazite, 551.
Saws, ice, for opening navigation, 367.
Saxony, manufacture of gut strings, 275.
Schools:
British industrial, State aid, 372.
Foreigners in German technical, 373.
Turkish, teaching of Turkish in, 188.
Scotland:
Agriculture, 149.
Glasgow tenement houses, 398.
Serum, antidiphtheritic, government control of, 181.
Sewing machines:
Bulgaria, 645.
Denmark, 113.
Shanghai, civil government, 324.
Shipping concessions for Madeira, 371.
Shoes and boots, American, in England, 146.
Shoes, Austrian military, 507.
Siam, market for dairy products and fruits, 206.
Silk:
Artificial, in Switzerland, 266.
Culture in southern China, 591.
Industry of Spain, 589.
Industry of Turkey, 533.
Production of the world, 590.
Silkworms in southern China, 591.
Silver and gold production, Australasia, 185.
Silver, gold, and platinum in Russia, 164.
Silver question in Würtemberg, 185.
Singapore, American clocks, 186.
Snails, edible, 178.
Snuff in Denmark and Sweden, 514.
Spain:
Agricultural taxation, 551.
Bag manufacture in Valencia, 478.
Barcelona woven goods, 571.
Cotton baling, 26.
Cotton-mill strike in Malaga, 559.
Declared exports for United States, 634.
Duty on wheat, flour, and bran, 183.
Hat trade, 569.
Fruit culture in Malaga, 564.
Grapes and raisins in Malaga, 564.
Labor and food prices in Malaga, 554.
Lemons in Malaga, 568.
Old letters of exchange, 530.
Olive oil, 570.
Oranges in Malaga, 567.
Population of Malaga, 554.
Silk industry, 589.
Trade opportunities in Valencia, 552.
United States vessels at Barcelona, 306.
Wages in Malaga, 557.
Spirits, Bulgaria, 641.
Slate beds for billiard tables in Venezuela, 187.
Staves, export from Fiume, 662.
Steam tramway in Venezuela, 372.
Steamers, new line between Trieste and Manchester, 539.
Steamship service from Central America, 370.
Stockholm, monazite, 549.
Straits Settlements:
Grasses and forage plants, 249.
Market for dairy products and fruits, 209.
Strike, cotton mill, in Malaga, 559.
Strikes in Austria, 303.
Strings, gut:
Italian, 281.
Manufacture in Saxony, 275.
Sugar:
Crop of Cuba, 532.
Export duty on Java, 365.
Statistics, Cuban, 187.
Trade of Hawaii, diversion, 169.
Sweden:
Monazite in Gothenberg, 549.
Monazite in Stockholm, 549.
Snuff, 514.
Sweden and Norway, declared exports for United States, 635.
Swedish tariff changes, 148.

Swine disease in Germany, 531.
Switzerland:
Alcohol monopoly, 268.
American hardware and machinery, 343.
Artificial silk, 266.
Burial of the dead, 125.
Cotton industry, 582.
Declared exports for United States, 635.
Emigration, 528.
Exposition (1896), 374.
Federal monopoly of matches, 186.
Grasses and forage plants, 243.
Imports into, by way of France, 529.
Paper and paper manufactures, 308.
Sydney, market for dairy products and fruits, 220.
Syria, market for dairy products and fruits, 203.

Tael, Haikwan, 335.
Tariff:
Bahamas, new, 490.
Belgian, present and proposed, 479.
Changes in Russia, 531.
Law proposed for Belgium, 147.
New, of Barbados, 354.
New railroad in Russia, 315.
Swedish, changes, 148.
Taxes, additional, in Colombia, 188.
Tariff and industrial condition of Jamaica, 151.
Tariff and other taxes in Madagascar, 165.
Tarred-felt roofing paper in Great Britain, 250.
Tasmania, grasses and forage plants, 249.
Tax:
Consumption, in Madagascar, 661.
Export, abatement in Puerto Rico, 373.
Income, of Prussia, 122.
Taxation, agricultural, in Spain, 551.
Taxes and tariff in Madagascar, 165.
Tea:
Production, and grain exports, Russia, 163.
Season of Hankow, 530.
Trade of China, 340.
Tenement houses:
Berlin, 382.
Brussels, 386.
Glasgow, 398.
Liverpool, 408.
London, 421.
Paris, 454.
Tenement houses—Continued.
New laws in New York, 467.
New York, 460.
Textiles, Bulgaria, 640.
Thuringian products, sample room for, 519.
Tien-Tsin, market for dairy products and fruits, 195.
Tin-plate, British export, 305.
Tin-plate manufacture:
Austria, 59.
Belgium, 65.
Berlin, 78.
Birmingham, 89.
Bristol, 89.
Brussels, 65.
Cardiff, 91.
Chemnitz, 78.
Cologne, 84.
Dusseldorf, 85.
France, 69.
Frankfort, 86.
Germany, 78.
Glasgow, 99.
Great Britain, 89.
Kehl, 88.
Liege, 66.
Liverpool, 99.
Nuremberg, 88.
Paris, 69.
Rheims, 71.
Russia, 102.
St. Etienne, 77.
St. Petersburg, 102.
Sheffield, 100.
Swansea, 100.
Warsaw, 102.
Tobacco:
Bulgaria, 642.
Duties in Venezuela, 663.
Tramway, steam, in Venezuela, 372.
Transandine railway guaranty, 181.
Treaties, Greece with Belgium and Russia, 663.
Treaty between Netherlands and Portugal, 510.
Treaty between Paraguay and Belgium, 512.
Treaty, commercial, China and Japan, 339.
Trieste and Manchester, new line of steamers between, 539.
Turin, night refuge for workingmen, 523.
Turkey:
Grasses and forage plants, 249.
Silk industry, 533.

Turkey—Continued.
Teaching of Turkish in schools, 188.
Turkish Empire, declared exports for United States, 637.
Turkish, teaching of, in Turkish schools, 188.

United Kingdom:
American boots and shoes in England, 146.
British export of tin plate, 305.
British industrial schools, State aid, 372.
Cardiff coal trade, 271.
Coal production (1883 to 1893), 301.
Foreign trade, 190, 377, 538.
Glasgow tenement houses, 398.
Imports and exports (first six months of 1895), 669.
Liverpool artisans' dwellings, 415.
Liverpool tenement houses, 408.
London tenement houses, 421.
Manchester and Trieste, new line of steamers between, 539.
Sliding scale for South Wales colliers, 572.
United States:
New tenement house laws in New York, 467.
New York tenement houses, 460.
Nitrate shipments to, 371.
Trade with China, 336.
Vessels at Barcelona, 306.
United States and Russia, trade between, 495.
United States, exports declared for:
Algeria, 593.
Austria-Hungary, 595.
Belgium, 595.
British India, 129, 597.
British West Indies, 598.
Canada, 598.
Cape Verde Islands, 608.
Ceylon, 608.
Cuba, 608.
Danish West Indies, 609.
Denmark, 610.
France, 610.
Germany, 285, 615.
Gibraltar, 622.
Honduras, 623.
United States, exports declared for—Cont'd.
Italy, 624.
Malta, 628.
Mauritius, 628.
Mexico, 628.
Netherlands, 631.
Russia, 633.
Spain, 634.
Sweden and Norway, 635.
Switzerland, 635.
Turkish Empire, 637.
United Kingdom, 293.
Uruguay:
Agricultural exhibition, 375.
Montevideo, electric lighting, 162.

Valencia:
Bag manufacture, 478.
Trade opportunities, 552.
Venezuela:
Baggage regulations, 372.
Duty on bitters, 373.
Railroad development, 155.
Slate beds for billiard tables, 187.
Steam tramway, 372.
Tobacco duty in, 663.
Venice, art exposition, 172.
Vessels of the United States at Barcelona, 306.
Victoria, market for dairy products and fruits, 221.
Vines, American, in Russia, 500.

Wages in China and Japan, 328.
Wages in Japan, 521.
Wages in Malaga, 557.
Wales, sliding scale for colliers, 572.
Weeds in New Zealand, removal, 369.
Wheat crop in France, 532.
Wheat, flour, and bran, duty on, in Spain, 183.
Wheat imports into Germany, 182.
Wood, aspen, for matches, 515.
Workingmen, night refuge for, 523.
World's silk production, 590.
Woven goods, Barcelona, 571.
Würtemberg:
Emigration, 368.
Silver question, 185.

CONTRIBUTORS.

Abbot, C. H. (vice consul-general, Berlin), 78.
Angell, S. H. (commercial agent, Roubaix), 532.
Ashby, N. B. (consul, Dublin), 256.
Baker, E. L. (consul, Buenos Ayres), 228.
Ballard, W. J. H. (consul, Hull), 259.
Barker, W. B. (consul, Sagua la Grande), 532.
Barrett, John (consul-general, Bangkok), 206.
Bartholow, P. (consul, Mayence), 531.
Bayard, T. F. (ambassador, London), 146.
Bedle, B. R. (consul, Sheffield), 100, 264.
Bell, G. W. (consul, Sydney), 220.
Bellet, H. P. du (consul, Rheims), 71.
Bidlake, J. (consul, Barranquilla), 188.
Black, W. J. (consul, Nuremberg), 88, 235.
Boon, C. (vice-consul, Padang), 197.
Bowen, H. W. (consul-general, Barcelona), 26, 306, 530.
Boyesen, O. H. (consul, Gothenberg), 148.
Buchanan, W. I. (minister, Buenos Ayres), 103.
Butler, E. C. (secretary of legation, Mexico), 133, 184.
Campbell, W. L. (consul, Newcastle, England), 237, 263.
Carroll, W. S. (consul-general, Dresden), 115.
Caughy, C. M. (consul, Messina), 173.
Chancellor, C. W. (consul, Havre), 7.
Child, J. T. (consul, Hankow), 340, 530.
Collins, P. A. (consul-general, London), 23, 262, 372, 421.
Connolly, J. D. (consul, Auckland), 225, 369.
Currie, J. (consular agent, Karachi), 44.
Davies, D. C. (commercial agent, Swansea), 100.
Denby, C. (minister, Peking), 335, 339, 342.
Dickinson, A. D. (consul, Nottingham), 263.
Donnelly, J. G. (consul-general, Nuevo Laredo), 628.
Downes, E. (consul, Amsterdam), 631.
Eckford, Q. O. (consul, Kingston, Jamaica), 151, 155, 477, 529.
Elliott, I. M. (consul, Manila), 205.
Ewing, J. S. (minister, Brussels), 147.
Flagg, E. M. (vice-consul, Asuncion), 229.
Fletcher, J. (consul, Genoa), 24.
Fox, T. W. (consul, Plymouth), 263.
Gade, F. G. (consul, Bergen), 588.
Gade G. (consul, Christiania), 244, 550.
Germain, E. (consul, Zurich), 126, 186, 243, 268, 308, 528, 529, 533, 582.
Gibson, T. R. (consul, Beirut), 203.
Gifford, G. (consul, Basle), 125.
Ginmarães, J. B. (consular agent, Santiago, C. V. I.), 608.
Gottschalk, O. (consular agent, Markneukirchen), 275, 513.
Greene, C. C. (vice-consul, Antofagasta), 371.
Grellet, C. T. (consul, Algiers), 593.
Grimke, A. H. (consul, Santo Domingo), 138.
Grinnell, W. F. (consul, Manchester), 262, 301.
Hall, J. D. (consul, San Juan, P. R.), 373.
Hammond, E. P. T. (consul, Budapest), 662.
Harris, W. (vice and deputy consul, Cardiff), 305.
Heenan, T. E. (consul, Odessa), 504, 550.
Hollis, W. S. (consul, Mozambique), 370.
Howells, A. (consul, Cardiff), 91, 255, 271, 572.
Hunt, W. E (consul, Hongkong), 193.
Hyatt, P. F. (consul, Santiago de Cuba), 531.
Hyde, F. E. (consul, Lyons), 473.
Ingraham, D. H. (consul-general, Halifax), 599.
Isdahl, J. C., jr., (vice-consul, Bergen), 549.
Jastremski, L. (consul, Callao), 581.
Jernigan, T. R. (consul-general, Shanghai), 324.
Johnson, A. C. (consul, Stuttgart), 185, 236, 368.
Johnson, H. A. (consul, Venice), 172.
Johnstone, J. M. (consul, Pernambuco), 45.
Jonas, C. (consul-general, St. Petersburg), 102.
Jones, W. S. (consul-general, Rome), 624.

Judd, M. (consul-general, Vienna), 59, 274, 303, 507, 593.
Karel, J. (consul-general, St. Petersburg), 163, 164, 186, 315, 318, 322, 362, 364, 371, 475, 495, 500, 502, 531, 633, 664.
Kay, C. de (consul-general, Berlin), 175, 358, 359, 362, 382, 544, 545, 615.
Keightley, S. (vice-commercial agent, Newcastle, N. S. W.), 211, 219.
Kemmler, W. F. (consul, Horgen), 126, 178, 266, 344.
Kennedy, D. C. (consul, Malta), 628.
Kirk, R. J. (consul, Copenhagen), 113, 505, 514, 610.
Krauss, A. (consular agent, Zittau), 311.
Lathrop, L. A. (consul, Bristol), 89, 254.
Lieber, P. (consul, Dusseldorf), 85.
Little, W. M. (consul, Tegucigalpa), 623.
MacBride, R. J. (consul, Leith), 183, 259.
McDaniel, R. P. (consul, Bahia), 45, 551, 662.
McGhee, F. C. (consul, Huddersfield), 258.
McIver, H. R. D. (consul, Denia), 552.
McIvor, N. W. (consul-general, Kanagawa), 198, 521.
McKenzie, J. A. (minister, Lima), 532.
McLain, T. J. (consul, Nassau), 490.
Mantius, W. E. (commercial agent, Turin), 523.
Maratta, D. W. (consul-general, Melbourne), 104, 185, 221.
Mason, F. H. (consul-general, Frankfort), 86, 170, 181, 182, 231, 529, 541, 618.
Meeker, C. (consul, Bradford), 253, 533.
Mertens, T. (consular agent, Grao), 478, 589.
Mills, E. (consul-general, Honolulu), 168, 169, 622.
Monaghan, J. C. (consul, Chemnitz), 12, 78, 373, 525.
Moore, T. E. (commercial agent, Weimar), 519.
Morey, W. (consul, Colombo), 44, 608.
Morris, H. C. (consul, Ghent), 122, 139, 174, 184, 299, 364, 367, 499.
Morse, A. B. (consul, Glasgow), 99, 237, 257, 398.
Morss, S. E. (consul-general, Paris), 69, 283, 472, 610.
Murdock, W. H. (consular agent, Ceara), 46.
Murphy, G. H. (vice-commercial agent, Luxemburg), 369, 660, 665.
Neal, J. E. (consul, Liverpool), 19, 99, 261, 408.
Nettles, J. E. (consul, Trieste), 2.
O'Hara, T. (consul, San Juan del Norte), 370, 371.
O'Neil, T. B. (consul, Stockholm), 549, 635.
Parker, G. F. (consul, Birmingham), 89, 252.
Pellet, E. P. (vice and deputy consul, Barranquilla), 47.
Penfield, F. C. (agent and consul-general, Cairo), 28, 188, 310, 476, 656.
Peterson, W. F. (consul, Vancouver), 598.
Plumacher, E. H. (consul, Maracaibo), 155, 160, 187, 372.
Polk, Van Leer (consul-general, Calcutta), 44, 196, 597.
Pratt, E. S. (consul-general, Singapore), 186, 209, 249.
Preller, W. A. (vice-consul, Rio Grande do Sul), 47.
Prickett, E. I. (consul, Kehl), 88.
Quinby, W. E. (minister, The Hague), 365, 510.
Rawicz, J. (consul, Warsaw), 102.
Read, S. P. (consul, Tien-Tsin), 195.
Reid, J. D. (commercial agent, Dunfermline), 149, 257.
Richman, I. B. (consul-general, St. Gall), 128, 343.
Ridgely, B. H. (consul, Geneva), 125, 374.
Riley, J. B. (consul-general, Ottawa), 601.
Roberts, W. P. (consul, Victoria), 598.
Robertson, W. H. (consul, Hamburg), 13, 547.
Roosevelt, G. W. (consul, Brussels), 176, 352, 386, 479, 488, 595.
Savage, J. M. (consul, Dundee), 257.
Savage, R. (consul, Nantes), 578.
Schramm, E. (consul, Montevideo), 163.
Seymour, W. H. (consul, Palermo), 533, 664.
Sherman, T. H. (consul, Liverpool), 415.
Short, L. (consul-general, Constantinople), 249.
Shropshire, C. (vice-consul-general, Paris), 454.
Smith, H. C. (consul, Santos), 47, 551.
Smith, N. (consul, Liege), 66.
Smithers, E. J. (consul, Osaka and Hiogo), 199.
Sommer, H. J., jr. (consul, Bombay), 29, 196.
Spence, P. B. (consul, Quebec), 610.
Sprague, H. J. (consul, Gibraltar), 622.
Springer, J. A. (vice-consul-general, Habana), 608.
Starkloff, H. M. (consul, Bremen), 10.

Steer, G. J. (commercial agent, St. Pierre, Miquelon), 607.
Stephan, T. M. (consul, Annaberg), 187, 515.
Stern, L. (commercial agent, Bamberg), 123, 265, 313.
Stewart, J. H. (consul, St. Thomas), 609.
Strobel, E. H. (minister, Santiago), 181.
Stuart, G. (minister, Montevideo), 512.
Taney, J. B. (consul, Belfast), 250, 370, 662.
Tate, G. T. (consul, Barbados), 354.
Taylor, H. (minister, Madrid), 183.
Terrell, A. W. (minister, Constantinople), 188.
Thomas, C. M. (consul, Marseilles), 8.
Thompson, T. L. (minister, Rio de Janeiro), 368.
Tingle, E. W. S. (consul, Brunswick), 121, 660.
Townes, W. T. (consul-general, Rio de Janeiro), 46, 649.
Twitchell, M. H. (consul, Kingston, Ont.), 182, 373.
Tyler, J. (vice-consul-general, Teheran), 200.
Walker, L. J. (consul, Cork), 256.
Wamer, W. D. (consul, Cologne), 546.
Warner, W. C. (consul, Tunstall), 264.
Webster, A. G. (consul, Hobart), 249.
Wetter, E. T. (consul, Tamatave), 165, 661.
Whiley, C. W., jr. (consul, St. Etienne), 77, 229, 474, 527.
Wiley, J. M. (consul, Bordeaux), 176.
Williams, C. P. (consul, Rouen), 144.
Williams, R. O. (consul-general, Habana), 187, 307.
Zollikofer, J. H. (vice-consul-general, St. Gall), 635.

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[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

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